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ABSTRACT

This report is one of a series of technical reports issued by the United Nations on integration and improvement of social, demographic, and related statistics and indicators. It notes that establishing detailed links between national accounts and balances and social statistics has proven to be unusually complex at the conceptual level. The applicability and usefulness in the social fields of internationally recommended concepts and classifications from economic statistics are explored, and the application of such concepts and classifications is discussed. Chapters I through IV deal with general questions of integrating economic and social statistics that are common to many fields of social concern. These include: (1) the general justification for integration; (2) the central importance of multipurpose classifications; (3) problems and possibilities for linkage between micro- and macro-data; and (4) technical issues involved in the use of statistics in social fields related to economic measurement. Chapters V through VII analyze practical problems of integration using actual available data as illustrations in the fields of health services, educational services, and housing and human settlements. Proposals for further work are summarized in Chapter VIII. (Contains five tables.) (SLD)

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CONCEPTS AND METHODS FOR INTEGRATING SOCIAL AND ECONOMIC STATISTICS ON HEALTH, EDUCATION AND HOUSING

A Technical Report

UNITED NATIONS

ST/ESA/STAT/SER.F/40

DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS

STATISTICAL OFFICE

STUDIES IN METHODS Series F No. 40

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A Technical Report

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NOTE

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PREFACE

The present report is one in a series of technical reports issued by the United Nations on integration and improvement of social, demographic and related statistics and indicators. These studies have been concerned with such issues as development of an overall subject-matter and conceptual framework, general principles and methods of integration, statistical classifications for integration, integrated data bases, development of social indicators, statistics and indicators on special population groups such as women, youth, elderly and disabled persons, and development of integrated social and related statistics in developing countries.[1]

One of the early objectives of this work was the development of systematic linkages between social statistics and economic statistics using the systems of national accounts and balances. For example, in Towards a System of Social and Demographic Statistics, the first publication in this series, chapter VI is entirely concerned with the treatment of non-market activities such as health and educational services in the United Nations System of National Accounts (SNA). Another early report in this series was concerned with ways of supplementing the national accounts and balances to provide improved measures of welfare and levels of living. [2] However, as the present report notes, establishing detailed links between the national accounts and balances and social statistics has proved to be unusually complex at the conceptual level, and such specific conceptual and methodological proposals as have been developed have proved difficult to implement. The present report has been prepared to take stock of the present situation. Specifically, its objectives are:

(a) To consider the applicability and usefulness in the social fields of relevant internationally recommended concepts and classifications from economic statistics, with particular reference to the United Nations systems of accounts and balances,[3] taking into account both conceptual issues and practical problems of data collection and compilation;

(b) To illustrate the application in the social fields of currently accepted economic concepts and classifications, with examples from national and international work, including theoretical and applied work on the concept "total consumption of the population";[4]

(c) To suggest ways of overcoming conceptual and practical problems which are identified.

Chapters I to IV deal with general questions of integrating economic and social statistics which are common to many fields of social concern. These include the general justification for integration (chap. I), the central importance of multi-purpose classifications, particularly according to socio-economic group (chap. II), problems and possibilities for linkages between micro- and macro-data (chap. III) and some technical issues involved in the use of economic statistics and statistical systems in social fields related to economic measurement and use of the conceptual frameworks of the national accounts and balances (chap. IV).

Chapters V to VII analyse practical problems of integration using actual available data as illustrations in the fields of health services, educational services and housing and human settlements. Although this analysis is limited to these specific fields, many of the points discussed here are also applicable to other areas of social concern. Proposals for further work and for development of statistical recommendations and guidelines are summarized in chapter VIII.

The present technical report has been prepared by Professor Christopher Saunders as consultant to the United Nations Secretariat. It is based mainly on information available to the author early in 1984.

Notes

1/ Towards a System of Social and Demographic Statistics, Series F, No. 18 (United Nations publication, Sales No. E.74.XVII.8), Social Indicators: Preliminary Guidelines and Illustrative Series, Series M, No. 63 (United Nations publication, Sales No. E.78.XVII.8), Studies in the Integration of Social Statistics: A Technical Report, Series F, No. 24 (United Nations publication, Sales No. E.79.XVII.4), The Development of Integrated Data Bases for Social, Economic and Demographic Statistics, Series F, No. 27 (United Nations publication, Sales No. E.79.XVII.14), Improving Social Statistics in Developing Countries: Conceptual Framework and Methods, Series F, No. 25 (United Nations publication, Sales No. E.79.XVII.12).

2/ The Feasibility of Welfare-Oriented Measures to Supplement the National Accounts and Balances: A Technical Report, Series F, No. 22 (United Nations publication, Sales No. E.77.XVII.12).

3/ A System of National Accounts, Series F, No. 2/Rev. 3 (United Nations publication, Sales No. E.69.XVII.3), usually referred to as SNA, and Basic Principles of the System of Balances of the National Economy, Series F, No. 17 (United Nations publication, Sales No. E.71.XVII.10), also commonly referred to as the Material Product System, or MPS.

4/ Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households, Series M, No. 61 (United Nations publication, Sales No. E.77.XVII.11), paras. 5.7-5.9, and report of the Secretary-General entitled "Total consumption of the population: technical report" (E/CN.3/512).

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I. GENERAL ISSUES IN INTEGRATION

A. The purpose of statistical integration

The basic reason for promoting closer integration of statistical systems in related areas is the realization that few problems, whether in the economic or social fields, can be adequately treated in terms of a single, autonomous discipline. To take an example, analysis of community health conditions requires not only statistics of mortality and morbidity but also a variety of information about economic circumstances, housing and environmental conditions, educational levels and their distribution among the people concerned. Finding and verifying interrelationships is, however, complex and it is by no means easy to select the cross-classifications and linkages among different bodies of information that might yield significant results except by actual experiments which demonstrate such results.

Aggregated data (for example, national totals or averages) offer only very limited insights into linkages among social and economic variables. The development of social indicators reflects the breaking down of barriers among the various fields involved in measuring levels of living and the many factors known to be involved in serious inequalities. In particular, the designers and users of social indicators have concentrated on formulating not only national aggregates but also distributions of attributes among socio-economic groups, geographical areas, and so on. At the same time, economic statisticians, notably in national accounting, have also moved towards more disaggregation, reflecting the increasing use of the national accounting framework for many purposes in social and economic analysis. The development of social accounting matrices (SAMs) is part of this trend.

The long-term theoretical objective of integration might be described as a single statistical framework applicable to all relevant social, demographic and economic data - the framework being "the bones and muscles" which "provide structure and support and hold the body together".[1/] For example, one elementary and quite prosaic requirement for such an objective is a common (or at least easily reconcilable) set of multipurpose concepts, classifications and definitions of people, institutions, money flows, geographical areas and their attributes which will allow fruitful combinations of data from interrelated fields of study. However, such a requirement is extremely difficult to meet in practice.

Most major bodies of statistics, both for obvious administrative reasons and with specialized analysis in view, have been set up more or less as single-purpose statistics. There are many examples in the fields of medicine, education and housing. The data for each field have been collected as appropriate to specialized objectives using various combinations of business and administrative records, censuses, sample surveys and so on. Then, *post hoc*, the specialists' desire for statistical continuity and the difficulties of reclassifying data into a different set of classifications become serious obstacles to harmonization. Progress towards what might appear as a simple objective must therefore proceed step by step. These difficulties apply both to the development of internally consistent national frameworks and, *a fortiori*, to international harmonization.

Co-operation among national statisticians, through the initiatives of international organizations, has made very substantial progress. At least some basic principles of harmonization have been agreed upon even though their application in practice lags behind. In two areas in particular, international guidelines have been established which can be regarded as useful starting points for a wider and multipurpose harmonization of classifications and definitions. One area is national income and production, covered by the systems of national accounts and balances, which provide a consistent way of organizing statistics on economic activity expressed in monetary terms. While there are important differences between the United Nations System of National Accounts (SNA) and the centrally planned economies' System of Balances of the National Economy, also referred to as the Material Product System (MPS), they still have much in common and procedures for statistical reconciliation are being developed.2/ There are much less significant, but sometimes awkward, differences between SNA and the European Community's European System of Accounts (ESA). A second area is population and housing topics covered by population and housing censuses. These censuses can be described as providing multi-subject data with individuals and households as units. This field is also covered by United Nations statistical recommendations.3/

The systems of national accounts and balances and the population and housing census recommendations are well-developed organizing devices and conceptual frameworks useful for a wide variety of purposes in their respective economic and social-demographic fields. Each can be regarded, for its own field, as a coherent structure of which the "bones and muscles" can serve as an integrating framework for related fields, both social and economic. Moreover, at important points, such as industrial and occupational classifications, links between the two systems exist, although they need to be strengthened. This is not to say that the concepts and classifications of either system, as they now stand, can be used for integration without modification. There are, for example, several points at which the national accounting frameworks need clarification or revision if they are to be used more fruitfully for socio-economic analysis. This is one of the issues emerging in current international discussions of the revision of SNA.4/

B. Sources of data at the national level

The main sources of basic economic and social data which are considered here offer manifold opportunities for significant linkages. They may be grouped as follows:

(a) Multi-subject data, that is, basic data providing information in a variety of social and economic fields:

(i) Censuses of population and housing, a fundamental source for social and economic information in several fields;

(ii) All kinds of sample surveys of households and individuals, surveys of communities;

(iii) Statistics in money terms of incomes and expenditures of persons and households, Governments, enterprises and other entities both private and public. These data are processed and summarized in national accounts and balances;

(iv) Other administrative statistics recording the operations, in physical units, of public and private institutions;

(b) Data relating to a specific subject or single area of social concern:

(i) Health and health care. Statistics of mortality and morbidity; human and financial resources devoted to health care and their use; statistics of factors affecting health, such as nutrition and environmental conditions;

(ii) Education. Statistics of enrolment and achievement, educational institutions, expenditure, fields of study, and teachers and students;

(iii) Housing and human settlements. Statistics of housing stocks and construction, occupancy, and household and community facilities.

C. International compilations of statistics

One objective of the integration of statistics is to meet the need for better co-ordination of definitions and classifications among the questionnaires and publications of international agencies, which are widely used for making international comparisons. For national accounts there are the compendiums of the United Nations, the Organisation for Economic Co-operation and Development (OECD) and the European Communities; for health, the compendiums of the World Health Organization (WHO) and the United Nations; for education, the compendiums of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and OECD; for housing and human settlements, various United Nations compendiums; for social expenditure by function, the Government Finance Statistics Yearbook, which is published by the International Monetary Fund (IMF), and Social Protection Statistics, published by the European Communities. For the centrally planned economies, most of these topics are covered in the Statistical Yearbook of the Council for Mutual Economic Assistance (CMEA). In addition, the publications of the International Comparison Project (ICP) contain a wealth of relevant social and economic data for the countries surveyed.5/

Despite continuing and extensive co-operation among the responsible international organizations, much remains to be done to avoid unnecessary discrepancies in data provided in different compendiums with overlapping coverage. While it is recognized that different publications have different objectives and some discrepancies may also arise from lack of co-ordination within the national services supplying information, definitions and sources

must be co-ordinated as much as possible. Complete consistency in every detail may often be impracticable, but international organizations must collaborate to the greatest possible extent in framing their statistical requests in terms of clear, internationally agreed concepts, classifications and definitions, and in making more explicit in their publications the relationships between the figures given and those published by other agencies. The careful reader should be able to identify relationships between sets of figures which apparently include the same series but which may differ in significant details. This can be done by reference to the appropriate international statistical recommendations. The purpose of such co-ordination is not just a passion for statistical uniformity for its own sake but rather to reduce the risks of contradiction in the data, of misunderstanding, and of drawing apparently contradictory conclusions using different sources.

II. USE OF A SOCIO-ECONOMIC GROUP CLASSIFICATION FOR STATISTICAL INTEGRATION

For linkages among different data sources and among different topics in the social and economic fields, one of the most important instruments is a multi-purpose classification for aggregating data on individuals and households according to socio-economic group. The main categories in such a classification must be derived from the much more detailed classifications used in such major sources as population censuses and labour force statistics. For linkages among, for example, economic circumstances and status, fertility, mortality and health (or ill-health), educational level and other aspects of levels and patterns of living, a classification into, say, not much more than a dozen socio-economic groups is probably one of the most important tools potentially available and a feasible objective. Classification by income groups is an alternative which is sometimes used, but it is by no means identical and frequently much less practicable.

In many countries, a socio-economic group classification, generally based on broad occupational categories, is widely used not only by a variety of government agencies but also by commercial market research and survey organizations.

A. National experience

Descriptions of socio-economic group classifications used by various European countries are contained in papers submitted to a working party of the United Nations Statistical Commission and the Conference of European Statisticians in early 1983. These papers indicate some of the problems encountered both in formulating criteria of classification and in their practical application. Some papers also describe the uses made of the groupings for both economic and social analysis.[6] These classifications have many common features and the influence of international recommendations for population censuses and labour statistics is clearly apparent. However, the degree of disaggregation used in summary statistics naturally varies and sometimes exceeds the dozen suggested above, making comparison difficult.

A common feature of these national classifications is that occupations are the principal basis of classification, taking the occupation of the head of the household or other reference person if a distribution of households is required. The criteria for grouping occupations are, however, elusive. One objective may be a certain homogeneity "in respect of situation at work and on the labour market",[7] for which income may be a factor but is not determinant. Less easily definable criteria may be based on typical "life patterns", the prestige attached to the occupation, the degree of responsibility or level of education required. Although an explicit status or class hierarchy may be disavowed, a hierarchical approach is almost always implicit.

The broad national groups usually follow a similar general pattern, although the order may vary, along the following lines:

(a) Senior managers and higher professions;

(b) Middle-level management and professions;

(c) Clerical and other non-manual workers;

(d) Manual workers, in some cases by skill level;

(e) Persons not employed, with retired persons shown separately in some cases and with unemployed persons classified in various ways in different countries.

Some observations which can be made on the national classifications are the following:

(a) Own-account workers and employers are sometimes distinguished in each relevant group, thus introducing an element of classification based on status in employment;

(b) In some countries, farmers are shown as a separate group and agricultural workers separately from other manual workers;

(c) Foremen may be treated as manual or non-manual;

(d) If manual workers are divided, some countries use the classical threefold division among skilled, semi-skilled and unskilled; some put the semi-skilled with the skilled and others with the unskilled; others make no division at all;

(e) Retired persons may be classified according to previous occupation.

It can be seen from these observations that, although the overall titles of the groups may appear similar among countries, the allocation of both major occupational categories and of specific occupations to each group (especially the first three) can differ very widely. Some specific examples are discussed below.

In France, a summary standard classification consisting of eight "socio-occupational" groups has been in general use for more than 20 years and applied to a variety of social and economic analyses, including demographic analysis, distributions of income and consumer expenditure, redistribution of incomes through taxes and social benefits and analysis of leisure activities. This classification has recently been revised for the 1982 population census and now provides four integrated levels of classification and disaggregation. At the most detailed level nearly 500 occupations are distinguished. These are grouped into 42 socio-occupational categories and further aggregated into 24 "standard occupational levels". The summary classification of eight groups is provided for broad analyses, such as cross-tabulations among different data sources.[8/] The two highest levels of aggregation (8 and 24 groups) are shown in table 1.

In Italy, a socio-occupational classification is also being developed for use both in population censuses and in reduced form in other current statistics. In this classification, 258 occupational categories are grouped into 14 socio-occupational groups for the economically active population, plus five groups for the non-active (CES/WP.34/43). However, the Italian statistical office points out that the use of detailed occupational categories as building blocks for a more summary classification inevitably involves long delays in coding. It is seeking ways of speeding up the process, such as pre-coding some occupations regarded as indicative. It is suggested that by such short-cuts it would be possible to devise at least a five-group classification applicable to all social and demographic statistics.

The Norwegian Central Bureau of Statistics, responding to recent general demand for an official socio-economic classification, developed a system for the 1980 population census. The classification was then made mandatory for all statistics produced by the Bureau, specifically to allow comparisons among statistics drawn from different sources and bearing on different social variables (CES/WP.34/45, para. 5).

In the United Kingdom of Great Britain and Northern Ireland, summary socio-economic groupings (revised from time to time) have long been used in population censuses for demographic analysis of fertility, for example, and are used for the analysis of income and expenditure patterns and other variables in various household surveys. Commercial market research organizations use a very similar classification. However, different occupational classifications are used for other statistics, notably wage and salary statistics.

Among countries with centrally planned economies, both Czechoslovakia (CES/WP.34/40) and Hungary (CES/WP.34/42) use socio-economic classifications broadly similar to those used in western Europe. For cross-classification with other data, they attach importance to further disaggregations regarded as relevant to social development and planning and to institutional sectors (state, co-operative and private).

B. International recommendations

No general international agreement on a classification of socio-economic groups has yet been adopted. Although its importance has been recognized, the difficulties of a uniform classification appropriate to widely differing national circumstances have not thus far been overcome. However, some international guidelines have been proposed or are under consideration.

Since classification of socio-economic groups is normally closely related to classification of occupations, a starting point is the International Standard Classification of Occupations (ISCO) of the International Labour Organisation (ILO). Revision of the widely used 1968

Table 1.

Classification of socio-occupational groups, France[a/]

Aggregated level (8 items, including 6 for the economically active)		Standard publication level (24 items, including 19 for the economically active)	
1.	Farmers	10.	Farmers
2.	Craftsmen, tradesmen and general managers	21.	Craftsmen
		22.	Tradesmen and related workers
		23.	Managers of businesses with 10 or more employees
3.	Senior managerial staff and higher intellectual professions	31.	Liberal professions
		32.	Civil service administrators, intellectual and artistic professions
		36.	Senior managerial staff, industry, industry and commerce ("cadres")
4.	Middle-level professions	41.	Middle-level professions in education, health, the civil service etc.
		46.	Middle-level managerial staff in industry and commerce
		47.	Technicians
		48.	Production supervisors and general foremen
5.	Employees	51.	Public service employees
		54.	Clerical workers, private firms
		55.	Shop assistants
		56.	Housekeeping service workers
6.	Manual workers	61.	Skilled workers
		66.	Unskilled workers
		69.	Agricultural workers
7.	Retired persons	71.	Retired farmers
		72.	Retired craftsmen, tradesmen and general managers
		73.	Retired senior managerial staff and members of middle-level professions
		76.	Retired employees and manual workers
8.	Other persons without occupational activities	81.	Unemployed who have never worked
		82.	Various persons not gainfully employed (excluding retired persons)

a/ Nomenclature des professions et catégories socioprofessionelles; index analytique (Paris, Institut national de la statistique et des études économiques, 1983), première édition.

version of ISCO is now under way.9/ Eight major one-digit groups are given in the 1968 ISCO with a number of subdivisions. The classification may be summarized as follows:

1. Employers in agriculture

2. Agricultural own-account workers and members of producers' co-operatives

3. Non-agricultural employers

4. Non-agricultural own-account workers

   41. Professional and technical

   42. Other

5. Agricultural employees

6. Non-agricultural employees

   61. Managers and supervisors

   62. Professional and technical

   63. Clerical sales and service

   64. Manual

   65. Armed forces

7. Economically inactive, living in households

8. Persons living in institutions

It seems appropriate that work on the revision of ISCO should take into account, through international collaboration, the possible use of ISCO major divisions as a basis for aggregating occupations into a limited number of socio-economic groups adaptable to international comparisons. It is also to be hoped that work on the 1990 round of population censuses will result in a firmer basis for harmonization of statistical practices in this area.10/

The United Nations provisional guidelines for statistics of income distribution recommend analysis of household income by socio-economic group according to a classification adapted from recommendations of the Conference of European Statisticians for the 1980 round of European population censuses.11/ The main elements in this classification are not too far removed from the broad pattern of national classificatons outlined above.

The Statistical Office of the European Communities has not formalized a specific recommendation on a classification by socio-economic group. However, for its detailed surveys of industrial earnings, it has established a broad

eightfold grouping of occupations which resembles and appears adaptable to the general pattern of socio-economic groups noted above. The groups are rather precisely defined in terms of degree of responsibility or autonomy, scope of control, authority, level of skill and experience, and extent of education and training normally required.[12]

C. Conclusion

The general conclusions which emerge from this discussion can be summarized as follows:

(a) At the national level much can be done to establish and apply widely a uniform socio-economic classification as a major instrument for integrating economic and social data. Especially in countries where the statistical system is decentralized, it is an important function of central statistical agencies to promote the diffusion and use of a uniform system;

(b) At the international level there is much common ground in terms of the broad principles on which national socio-economic classifications have been established, but at the same time genuine comparability among countries is still in doubt. International comparability awaits the improvement and more general use of the detailed classification of occupations on which a socio-economic classification must depend.

III. INTEGRATION USING MICRO-DATA

A. General issues

Practically all statistics are necessarily derived from "micro-data", that is, primary records for individual units, however "macro" or aggregate their usual presentation. The opportunities for integration of economic and social data are greatly widened if the basic micro-data can be used to provide cross-classifications of individual or small group characteristics and of their distribution. The technical possibilities for making a variety of alternative cross-tabulations have been immensely increased by the expansion of computing facilities and this, in principle at least, can allow experimental testing for significant correlations and the merging of different data sets, including matching of micro-data from different sources for the same statistical unit. Further, the body of statistics available for creating linkages has been greatly enlarged by the accelerated growth of sample surveys of households and individuals in addition to collection of data from firms and administrative units.[13/]

Thus, at first sight micro-data might appear to offer a solution to the problems of integrating statistics of associated phenomena. They offer a flexibility for analysis and experimentation which is not available from aggregate data in official statistics. Moreover, sample surveys can be used to update the full but infrequent coverage of censuses of population, a point which also emphasizes the importance of harmonizing definitions and classifications. To date, however, the possibilities of bringing together the various data sources - that is, censuses, surveys and administrative statistics - to display the combinations of economic and social variables involved in social policy and analysis have only been exploited in a few cases or in limited circumstances.[14/] The remainder of the present section reviews general problems which must be dealt with in the development of micro-data linkages and the following section considers the development of micro-data on time-use, which have applications in many of the social fields.

Some of the difficulties standing in the way of fuller exploitation of linkages among data sources may be summarized as follows. First, there are the problems which arise from the use of differing classifications. These have already been noted in relation to socio-economic groups. Classification by geographical areas presents similar difficulties, especially for the use of surveys based on rather small samples and for the use of administrative statistics since different administrations tend to use differing local units.

Secondly, in linking data from household surveys with data from other sources, for example, the population census on specific subjects, such as income, familiar problems of response bias arise. These are made more complicated by variations among sources in such biases and by concepts which may be difficult to reconcile. For example, the concept of household income as understood by a survey respondent is bound to differ from that used for the macro-data on household incomes in national accounts or for data on labour costs from employers, as regards income elements such as imputed value of owner-occupied dwellings, employers' contributions to superannuation schemes

or social security and income in kind. The value of such income elements may be unknown to the survey respondent. Complete consistency may thus be impossible in some cases.

Thirdly, statistical information about individuals, such as that in censuses, surveys and administrative records and registers, is generally subject to a guarantee, often embodied in legislation or administrative regulations, of confidentiality. This may take the form of a statement that particulars about individuals and households will be used only for statistical purposes, that is for aggregation or in a protected, anonymous form. Such guarantees are regarded as essential for obtaining the confidence and full co-operation of respondents, who are often particularly sensitive to fears that information about themselves may find its way to, for example, the police or the authorities responsible for taxes or social security, or to commercial organizations. These fears have in some cases intensified because of the increasingly widespread existence of computerized records in official agencies and have led to extensive legislative safeguards for data protection in many countries.

The nature of the regulations varies greatly between countries and in many the issue is still evolving, but it is clear from the active discussions of this matter among statistical offices that legislated protection of confidentiality is in many countries a hindrance to statistical linkages.15/ The Council of Europe has drawn up a Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data, which sets out a set of security measures. This Convention includes special provision for the transfer of data between users exclusively for statistical or research purposes. In principle, these very understandable precautions should not prevent the cross-tabulation of micro-data from one source with those from another, so long as the individual data are either coded to preserve anonymity or grouped into appropriate aggregates. This requires the introduction of common coding systems allowing the matching of data in different sources. One method is to introduce personal identity numbers for linking data bases, which is done in several countries but arouses public resistance in others. Such methods can also be expensive. Study is still needed to find a practical balance between the individual's concern for protection of personal data and the social interest in promoting full and efficient exploitation for statistical purposes of the whole inventory of statistical information now available.

Fourthly, besides the need to maintain confidentiality there are technical and practical problems in organizing the storage of data so as to allow access to micro-data in a convenient and economical way. Current practice in respect of population census records in 12 countries of the Economic Commission for Europe (ECE) region is summarized in a report prepared by the Statistical Office of the United Nations Secretariat.16/ Most countries which provided information for that report have their micro-data stored in computer-readable form. In more than half of the reporting countries, the micro-data and/or special tabulations from them are reported to be available to official users and in several also to non-official users, generally in depersonalized form. The main reason given for non-availability or restrictions on availability is protection of confidentiality, but costs are also mentioned.

Thus, there are several reasons why systematic linkage of data from a variety of sources - in their most ambitious shape the formation of multi-source micro-data bases - has made only slow progress. Illustrations of what appear to be productive linkages based on micro-data in the fields of health, education and housing are presented in the respective chapters on each field below. The difficulties enumerated here for integrating data sources bearing on these three areas are admittedly severe, but at the same time a number of useful examples drawn from national experiences are cited - though this is a very incomplete list. The summary conclusion may be that, while discussions among statisticians continue, a way forward would also lie in national experiments making the best use of what information exists, taking into consideration the need for personal data protection. The strongest argument for devoting more resources to integration of data lies in practical statistical demonstration of the insights which such linkages can give into social and economic conditions for effective policy applications. Such demonstrations should be published as widely as possible.

B. Time-use data

Sample surveys of the use of time, such as during a day or a week, are a class of micro-data increasingly collected and used to supplement more familiar economic and social statistics. Time, even more than money, can be regarded as a universally applicable unit of measurement.

A report on experience in this field was considered by the United Nations Statistical Commission in 1979 (E/CN.3/519). Despite many difficulties in the collection and processing of such data, they have been found useful in many countries. Some possible uses of time-use data may be mentioned:

(a) Some activities unrecorded in ordinary statistics have considerable importance for social and economic analysis of the use of resources, even though the attribution to them of money values is bound to be arbitrary and disputable. Prominent examples are: work in the home; the use of consumer durables such as cars and domestic appliances; the use of non-marketed services such as health facilities; the amount of leisure time and how it is used;

(b) The value of some other activities, such as production of food for domestic use, is conventionally estimated in national accounts but data collection and measurement are difficult and often incomplete. Time spent in such activities could serve as a useful check;

(c) Time spent in travel to and from work, whether in public or private transport, is an item with considerable significance for levels of living. Indeed, some would regard it, in national accounting terms, as "intermediate" rather than "final" consumption. Such information is also recognized as important for transport planning and widely used for that purpose;

(d) The usual statistics of working hours are rarely adequate or comprehensive. They often refer only to industry or to manual workers, or do not take into account the growth of part-time work. Time-use surveys could give a fuller picture;

(e) Time-use surveys could go some way towards establishing better estimates of unemployment, notably in developing countries;

(f) Time-use surveys have been used quite effectively to estimate the additions to recorded employment and output made by unrecorded activities;

(g) International comparisons of the use of time can shed new light on comparative living patterns. The same applies to changes in ways of living over the course of time. Increases in the amount of leisure time may be regarded as increases in well-being not adequately captured by other statistics.

IV. NATIONAL ACCOUNTS AND RELATED CONCEPTS IN THE SOCIAL FIELDS

National accounts are built upon a complex and internally consistent system of linkages at the "macro" level using a variety of data sources. As a result of the wide diffusion of national accounting techniques, they have developed as a multi-purpose statistical tool and much more is now demanded of them than for their original purpose of macro-economic management. Like the census of population in the demographic and social fields, national accounts provide an analytical framework for analysis into which can be fitted many statistical series. Because of their multi-purpose character, national accounts are also commonly used to quantify social trends and patterns - such as indicating the amount of resources devoted to health, education or housing. This use of the national accounting concepts, derived from economic analysis, may add to analysis of social trends.

The Statistical Commission has stressed the role of national accounts as a framework for the statistical system and as a point of reference in establishing standards for related statistics. However, it is not always easy to apply national accounting concepts in the social fields. In such applications, it is essential that the categories should be appropriate and unambiguous. Some modifications may be necessary to meet the needs of users in non-economic fields. Some general issues particularly concerning the treatment of health, education and housing in national accounts are discussed in this chapter. More detailed accounting issues, relating specifically to each of these fields, are dealt with in chapters V to VII. Some of the issues discussed may deserve consideration in the expert discussions of revisions to the System of National Accounts now in progress.[17/] Similar considerations apply to the development of the Material Product System.

A. Functional classification of expenditure

Because of the extensive contribution of Governments everywhere to the financing of the social activities with which the present study is concerned, the first step in integration must be a clear classification of the functions of Government and one which is compatible with the classification of household consumption expenditure in the same fields. International recommendations for classification of government expenditure (whether for direct purchases of goods and services or by transfers and subsidies) have been established under SNA in Classification of the Functions of Government (COFOG),[18/] and for household expenditure in SNA. The two classifications for the fields being considered here are as compatible as could be expected, bearing in mind that COFOG is a classification according to function, or activity, performed or financed by Governments (for example, "education affairs and services"), while the SNA classification of household consumption expenditure is in terms of categories of goods and services. Corresponding classifications for expenditures of enterprises and non-profit-making bodies are needed for completeness but present greater practical difficulties in gathering data.[19/]

Basic data on general government expenditure are normally derived from the accounts of government agencies, whose responsibilities do not necessarily

coincide with any functional breakdown such as COFOG. Conversion to COFOG of central government data is a laborious task and the accessible data may not be detailed enough to permit precise alignment. Adaptation of the accounts of subnational and other subsidiary authorities is likely to be even more difficult. Partly for such reasons, many countries have been unable to supply information by COFOG categories for the United Nations Yearbook of National Accounts Statistics. It might also be suggested that, because of the macro-economic and sectoral structure of national accounts, the value of a functional analysis of public expenditure, especially in the social fields, has not everywhere been fully appreciated. By contrast, the detailed analysis of household consumption expenditure has a long history as an instrument for policy for demand analysis and forecasting and for market research; and international comparisons have been extensively developed and used. Yet the highly variable weight of public expenditure in social consumption, in cash or in kind, has an influence on patterns of private demand which is impossible to quantify without compatible figures on public and private outlays.

The United Nations national accounts yearbooks provide examples of the deficiencies of these statistics, both for developed and developing countries. For developing countries, the amount of information is not discouraging, in view of their brief experience in computing these statistics. However, for many developing countries the figures are seriously out of date for both public and private spending in the social fields. This may indicate the extent to which the information relies on occasional one-time, ad hoc surveys or special studies, resources not permitting frequent repetition.

One example of the deficiencies is the paucity of classification by function of government unrequited transfers to households, which seems to present difficulties to national statisticians even in developed countries. A part of the difficulty is that unrequited transfers may fulfil more than one purpose, for example, transfers for income support may include support for rent payments as distinct from specific rent subsidies. Also, the SNA distinction between unrequited transfers and subsidies is not clear for some social functions. In principle, grants to producers are subsidies; to consumers, unrequited transfers. But grants to builders of homes for low-income households may be intended to allow the homes to be rented at low rents: the recipient of the subsidy is the builder, but the intended beneficiary is the household. To determine the incidence of some subsidies can be as difficult as determining the ultimate incidence of taxation. Another problem is raised by the practice, very common, of granting government loans at subsidized interest rates. It is debatable whether the value of such implicit subsidies can be calculated.

No universal solutions can be offered. The conclusion can only be pragmatic. There are cases in health or housing where the purpose of a subsidy benefiting households is clear enough to justify its treatment as an unrequited transfer, or where the concessionary element in a loan may be calculable. But in general it must be accepted that the functional breakdown of some flows cannot be complete. Some ambiguity is inevitable.

B. Final consumption and consumption expenditure

Expenditure directly incurred by general Government (central, provincial, local and social security funds) on the purchase of goods and services for operating a public service is treated in SNA as "government consumption". If households themselves pay in whole or in part for a service and subsequently receive reimbursement from a government agency or insurance scheme, their expenditure is treated as household consumption expenditure and the reimbursements as transfers from Government to households. This raises particular problems in the treatment of public expenditure on health services because of different national patterns of financing but could equally apply to other services, such as education, in which financing methods and the balance between public and private expenditure differ widely. International comparisons which ignore the statistical consequences of these institutional differences can be highly misleading. The reason for this differentiation of treatment is that the conceptual structure of SNA is founded on the breakdown of the economy by sectors (Government, enterprises, households), and expenditures are attributed to the sector which makes the purchasing payment.

One way of dealing with this problem would be to allocate consumption to the sector which benefits from the expenditure (that is, households) rather than to the sector which actually pays. This could, however, mean a substantial transfer of apparent consumption expenditures between sectors, upsetting the present conceptual structure of SNA and also carrying political implications which might or might not be welcome. For example, in the United Kingdom - where most health expenditure is now recorded as government consumption - the effect of shifting government expenditure on health to household consumption would be to reduce total government consumption by about 20 per cent and to raise household consumption by about 7 per cent (taking 1978 statistics from the United Nations national accounts yearbook). If a similar treatment were applied to education, additional proportionate adjustments of about the same magnitude would be necessary. Taking Sweden as another example, these adjustments would add about 10 per cent each to household consumption for health and for education and would reduce government consumption by about 20 per cent for each function. Such changes - even if represented as merely matters of changed statistical methodology - could not go unnoticed as matters of public and political concern.

If the alternative of treating unrequited transfers for specific functions as government consumption expenditure were adopted, the adjustments required in countries now attributing most of such expenditure to households would be in the reverse direction. For example, in France total household consumption would be reduced by about 8 per cent and general government consumption increased by about 4 per cent. A shift of educational expenditure, however, would affect existing practice less since most public educational expenditure is already included in government consumption in all countries and generally represents the greater part of total (private plus public) expenditure on education.

A less disruptive procedure has been argued by Jean Petre.[20/] This is to draw a distinction between "expenditure" (who pays?) and "consumption" (who uses?), to be recognized in the national accounts by a double classification

of the money flows affected. Such a dual classification, showing for each sector both its expenditure and its consumption, would be particularly helpful for an easily intelligible presentation of the financial flows in the health service - and possibly in other social fields.

Another aspect of accounting in the social fields relates to the integration of national accounting aggregates with statistics of household distribution (or redistribution) of income and consumption. Some government expenditure can be assigned to specified groups of households or individuals (education, use of health services, housing assistance), although not without difficulty, for example, using household survey data or possibly administrative statistics. Other "overhead" expenditures in the social fields (administration, research, maintenance and depreciation of buildings) cannot be so assigned even in principle. Neither can spending on defence, justice and the like be acceptably distributed among citizens. The distinction between the "assignable" and "collective" expenditures of Government could be embodied in the dual classification just suggested, the collective elements continuing to be treated as both government consumption and expenditure.

A dual classification could take the following form (an illustrative percentage distribution is shown):

Dual classification of expenditure/consumption

Consumption (used by)	Final expenditure (paid by): General Government	Households	Private non-profit bodies a/	Enterprises a/	Total
Collective b/	8	0	1	1	10
Household c/	60	22	5	3	90 d/
Total	68	22	6	4	100 e/

a/ So far as ascertainable. The absence of data for these sectors need not be an insuperable obstacle to completing the other cells.

b/ Administration, research, building maintenance and depreciation, so far as separable.

c/ Consumption assignable to specific population groups or individuals.

d/ Total consumption of the population which can be allocated to specific consumers.

e/ Total consumption of the population if non-allocable activities are included, as in the Material Product System of accounts.

The Government Finance Statistics Yearbook of IMF provides a wide range of statistics of government financial activities for 129 countries, including expenditure by COFOG functions for well over 100. However, most of the national data relate only to central Government (although this includes transfers to other public authorities). While IMF also asks for expenditure by local authorities, only about 20 countries provide such data broken down by individual functions. Since in many countries local (or other subnational) authorities finance many different services from their own resources, a reliable consolidated total of general Government can rarely be obtained.

C. Social protection statistics in the European Community

The Statistical Office of the European Communities (EUROSTAT) has established its own system for the integrated analysis of expenditure in the social field, which is contained in the European System of Integrated Social Protection Statistics (ESSPROS) Methodology: Part I.[21] The object is to bring together all expenditures, current or capital, "involved in meeting costs incurred by individuals or households as a result of the materialization or the existence of certain risks, contingencies or needs, in so far as this expenditure gives rise to the intervention of a 'third party', without there being any simultaneous equivalent counterpart by the beneficiary". The "third party" may be a government agency, social insurance scheme provided by law or regulation, or a private social assistance organization. The expenditure includes the supply of goods and services free or at subsidized prices, as well as cash payments. The intention is to cover all provision made on a collective basis, thus excluding expenditure arising from private initiatives by households "exclusively in their own interests" (for example, private insurance or other household purchases at market prices). It is intended to include also "fiscal benefits" (that is, reductions or abatements of income tax) related to the social protection function (such as tax reductions for dependent children), but problems of definition have so far precluded compilation of such data. There has also been considerable difficulty, now largely resolved at least conceptually, in determining the treatment of imputed benefits granted by employers, for example, for absence from work. Finally, practical problems have also arisen in obtaining detailed information from insurance companies which should be included.

The social protection categories separately distinguished in the detailed statistics include: sickness, invalidity; occupational accidents or diseases; old age; survivors; maternity/"family" (family allowances and the like); placement; vocational guidance; resettlement; unemployment; housing; miscellaneous. The statistics show benefits paid under each head (distinguishing benefits in cash from those in kind), and contributions paid by government agencies, social security funds, households, enterprises and non-profit institutions. It is intended to complement the money flows with corresponding "physical" or quantity data for each function - numbers of protected persons, number of beneficiaries, number of benefits provided, and so on.

While ESSPROS calls for comprehensive coverage of "third party" activities and allows international comparisons unaffected by differing

institutional arrangements, several questions may be raised. First, "the need to guarantee the closest possible co-ordination between the social protection statistics and the economic accounts" is recognized,[22] but reconciliation between the ESSPROS published statistics and national accounts compiled according to the European System of Accounts is not easy. Fuller explanation of the differences would be helpful and could also lead to clarification and harmonization of some of the relevant national accounting categories. Secondly, the data bases on which the ESSPROS tables are based may or may not lend themselves to distributions according to groups of households or individuals. Finally, the distinction between "assignable and "collective" expenditure still requires clarification.

D. Total consumption of the population

The user of national accounts might reasonably expect that their presentation would allow a straightforward answer to such apparently simple questions as, "How much does the nation (not just the Government) spend on health care, on education, on housing or other welfare services? What proportion of this expenditure does the Government (that is, the taxpayer, or the contributor to social security) pay? How do the resources devoted to these services in country X compare with those in country Y?" However, given the statistics now available, misleading and incomplete comparisons in these areas are unfortunately common but frequently inappropriate as a basis for policy-making.

Largely because of the central place occupied in the structure of SNA by the division of the economy into sectors, direct answers to these questions cannot easily be found. It can be difficult, and sometimes impossible, to bring together from the sectoral presentation comparable figures of public and private expenditure to form total consumption of the population (or enlarged consumption) for each of the social categories. There is a clear need here for integration within the statistical structure of national accounts.

The desirability and feasibility of introducing measures of total consumption, by function, into the national accounts have been under discussion for many years. The latest SNA guidelines refer to the concept of total consumption of the population rather parenthetically (paras. 1.87 and 6.95), and do not explicitly recommend it for inclusion in the system. It is cautiously considered in the 1982 expert reviews of SNA,[23] and is among the illustrative social indicators in the United Nations preliminary guidelines.[24] Total consumption of the population has long been one of the main aggregates in MPS and discussion of links between SNA and MPS has involved study of the matching of data for this concept. One problem here has been that some MPS countries do not appear to separate public from private expenditure. In compiling statistics for the International Comparison Project public and private expenditure have been combined for comparing consumption levels between countries, but there has been considerable difficulty in collecting the necessary data in many countries. Some of these problems, particularly with special reference to SNA/MPS comparisons, are brought out in the report of the Secretary-General entitled "Total consumption of the population: technical report" (E/CN.3/512).

An advantage of the concept of total consumption of the population is that it not only provides international comparisons irrespective of institutional differences, but can also improve consumer demand analysis and projections since income and price elasticities for private expenditure on such items as health care or housing can hardly be studied without regard to the variable extent of public financing. Despite these merits, measures of total consumption - by function or even in total - do not yet appear in the national or international statistics for market economy countries, except for estimates by ICP.[25/]

Some of the main practical and conceptual difficulties in actual measurement of total consumption by function are summarized below:

(a) Many countries using SNA appear unable to break down general government expenditure by function;

(b) Some countries also have inadequate data on private expenditure, notably for education;

(c) There is no agreed convention, and much debate, concerning the distinction between consumption assignable to individuals and collective consumption. To take a familiar type of example: Should the subsidizing of opera or the financing of free libraries be regarded as a collective service for the community or should this "consumption" be divided among the citizens, if discoverable, who use these services? Such questions produce more conceptual controversy than their quantitative importance justifies. It should be possible to arrive at an agreed convention;

(d) Another problem concerning both SNA and MPS is the doubtfully comparable valuation of public expenditure, generally valued at factor cost, and household expenditure, generally valued at market price (that is, at the price actually paid, which may be zero or subsidized). Can series based on the two valuations be added together? Certainly the addition could be misleading for international or inter-temporal comparisons if the ratios between public and private provision are very different. The ideal method of comparison is no doubt that at which ICP aims - the use of physical quantities with common price weights. But in default of such research-intensive methods, the inconsistency of valuation does not seem a sufficient reason for refusal to make estimates;

(e) Total consumption should include expenditure by enterprises (for example, on free or subsidized health services or housing) now mostly included in SNA as intermediate consumption of the enterprises but included in total consumption in MPS. It would be desirable to obtain breakdowns of such expenditure by functions comparable with COFOG, but the practical problems are considerable. The same applies to a breakdown by function of the expenditures of non-profit bodies.

The general conclusion is that measurement of total consumption, within the framework of SNA, by function - and particularly for the social functions with which we are concerned - need not be impeded by the imperfections of the information available. Indeed, more experiments with the existing information

should help to uncover opportunities for improvement. Estimates could be included, at least as supplementary tables, in the regular presentations of national accounts according to the United Nations SNA.

E. Satellite (functional) accounts

Accounting systems can be constructed for particular areas of social concern, bringing together statistics, financial or physical, of the different parts of the system whether for the public or the private sector. Such accounts have been pioneered in France in the form of satellite accounts, using the concepts and classifications of, and intended to supplement, the national accounts.[26/] The essence of the satellite account is that the concepts and classifications should be easily reconcilable with those used in national accounts and other sources. The aggregates for each function may, however, differ from those in the national accounts. For example, some items may appear, for the sake of comprehensive coverage, in more than one satellite account, such as spending on medical research which could appear in satellite accounts for research, for health and for education, while the national accountant must choose only one category.

A fully elaborated satellite account for a particular function requires close co-operation among agencies but can:

(a) Meet the need for an estimate of total consumption in each field and of its finance, in terms reconcilable, if not identical, with the national accounts; and

(b) Provide an integrated set of statistics, both financial and non-financial, drawing on a variety of sources.

Many countries provide specialized volumes of statistics relating to individual topics of social concern, or to social statistics in general. In some cases the data can be directly related to the corresponding statistics in other sources such as the national accounts. However, in other cases the correspondence is not at all obvious. Experiments with satellite accounts, like estimates of total consumption, can help to bring to light gaps and inconsistencies which it is an aim of integration of social and economic statistics to remove. A more detailed example in the field of health services is presented in chapter V, and the French experience in education and housing is also cited in those respective chapters below.

V. INTEGRATION OF STATISTICS ON HEALTH SERVICES

Basic statistics about health and health services may be considered under three aspects:

(a) The state of health of a population;

(b) The supply and use of services for protection of health and treatment of ill-health;

(c) The economic transactions involved.

For all three aspects the sources of data are varied and the harmonizing of the statistics, especially under (b) and (c), is complicated by the diversity of methods, even within a country, of organizing the system of health care. The present study is concerned with (b) and (c), that is health services and the related economic transactions, in order to limit the scope of the analysis to issues not treated extensively elsewhere.

Complementing the continuing statistical work of WHO on international standards of health reporting and on assessing the progress of the global strategy for "Health for All by the Year 2000", there is increasing interest in the economic and social implications of health systems and, consequently, a greater perception of the need for more comprehensive and internationally consistent statistics of health delivery systems. In the developed countries, this greater perception is fostered by rising costs, especially of public expenditure, and by the need for measuring cost-effectiveness and performance. In the developing countries, the main motivation may be the increasing emphasis on better health as a major element in overall development programmes.

As examples of international work the following may be cited: (a) studies prepared by the OECD Directorate for Social Affairs on health statistics in member countries, covering both economic and physical indicators of expenditure and performance;[27/] (b) the continuing work of the United Nations National Household Survey Capability Programme (NHSCP) to promote the collection of health statistics in household surveys;[28/] and (c) the work of the World Bank Living Standards Measurement Study (LSMS) on health indicators in developing countries.[29/]

A. Indicators of supply and use of health services

An important division in statistical series on health services is that between the available supply of facilities for health care (numbers of doctors and the like) and the actual use of these facilities (for example, hospital beds occupied). Some commonly used indicators (many reported as national aggregates in the WHO Health Statistics Annual and in the United Nations Compendium of Social Statistics and suggested in the United Nations preliminary guidelines for social indicators) are:

(a) Availability indicators. Physicians, dentists and other medical staff (nurses, midwives); number of hospital beds; distance from nearest doctor, clinic; and so on;

(b) Use statistics. Hospital admissions (and/or discharges); hospital patient bed-days (average per patient and ratio to beds available); out-patient visits to hospitals and clinics; visits to doctors and dentists; immunizations (separating children).

These indicators would be expressed where relevant as ratios to population. The United Nations preliminary guidelines for social indicators suggest breakdowns by urban, rural and other geographical areas, by socio-economic groups, by national/ethnic origin, and (for hospital discharges) by broad groups of diseases.

The OECD review of health statistics[30/] includes a number of other physical indicators of the use of health services which are available for many OECD countries. These include:

(a) Percentages of population eligible under a public scheme for: hospital care, ambulatory care, pharmaceutical benefits;

(b) Percentages of hospital bills, services of physicians, and the like, and of pharmaceutical bills paid for by a public fund;

(c) Per capita consumption of pharmaceuticals (this measure is not considered comparable among countries);

(d) Absenteeism from work because of ill-health (available for only a few countries).

The global strategy for "Health for All by the Year 2000", approved and published by WHO in 1981, includes a minimal list of 12 indicators. These include certain quantitative objectives against which progress of countries can be monitored. They include:

(a) At least 5 per cent of gross national product to be spent on health care;

(b) There should be available to all: safe water in the house or within 15 minutes walk; local health facilities, including at least 20 essential drugs, within one hour's travel; trained maternity personnel;

(c) Nutritional standards: minimum weight of 2,500 g. for 90 per cent of newborn babies, and weights for age of children corresponding to listed values;

(d) Life expectancy at birth at least 60 years;

(e) Infant mortality rate under 50 per 1,000 live births;

(f) Adult literacy rate of 70 per cent for both men and women;

(g) GNP per head of more than $500 a year.

B. Sources of data for physical measures

In most developed countries, civil registration systems provide data for many of the indicators suggested above. Death rates by cause of death are normally analysed using these data. Bed capacity and occupancy and out-patient treatments are normally recorded by hospitals and the statistics reported to the central Government. The same applies to health systems operated by approved insurance funds or other special funds and to visits to doctors and dentists and to their workloads, at least for those enrolled in a public health system. Statistics of the numbers of qualified physicians, dentists and other trained medical staff are generally maintained.

However, even when an administrative system in a developed country provides a voluminous flow of statistics, the following problems arise:

(a) The statistics from hospitals and practitioners may be incomplete in so far as they may be restricted to operations under public or publicly regulated schemes. The activities of private clinics and nursing homes may not be fully recorded; nor may be the activities of private health insurance companies, or of enterprises which operate health services for their employees;

(b) This applies in particular to morbidity statistics (analysis of diseases, injuries, accidents). While detailed data are generally compiled from hospital records, they are not so easy to obtain from practitioners or insurance companies. In addition, much ill health is never notified by the sufferer. The nature of the health care system is bound to influence the proportion of cases which are ever recorded. One cannot be sure that it is only minor afflictions which escape statistical coverage;

(c) Even within a health system, with its growing specializations there can be a lack of co-ordination of records. Separate recording systems are common for different branches of the health services (psychiatric, maternity, other) or types of care (public, private, physician, clinic, and so on) impeding the monitoring of resource allocation for health services as a whole or for local management;

(d) For detailed monitoring of health care and for analysing the association of health conditions and services with other social and economic factors, breakdowns for small geographical areas are essential. Unfortunately, small-area geographical classifications in different statistics programmes are generally based on a variety of administrative structures which rarely coincide.

To a limited extent, these problems of comprehensiveness and integration of administrative statistics bearing on health might be solved by the re-sorting and retabulation of the basic records held by official establishments, with a view to combining them with other social and economic statistics (such as the population census) or with information from household surveys. Some of the possibilities, and difficulties, of such linkages were outlined above. A complementary approach, also worth consideration, is whether health records (notably hospital records, medical insurance records and perhaps death registration) could be extended more widely to include

information about the social circumstances of patients (for example, a broad occupational grouping which could be assimilated to the socio-economic groupings used in population censuses).[31]

Another valuable source of information which might be more exploited is sample surveys among physicians and dentists whose case records contain a wealth of micro-data, relating especially to data on morbidity which is difficult to obtain (apart from hospital records) in other ways. For example, periodic morbidity surveys are conducted in the United Kingdom from a voluntary sample of general practitioners. A significant feature of these surveys is that physicians' records are successfully matched with coded individual files from the population census. In the presentation of results, consultations for each diagnostic (disease or condition) group are cross-classified with sex, age, marital status, social class, region, country of birth, housing tenure, and housing amenities (bath, toilet).[32]

In most developing countries the statistical situation is very different. Civil registration systems are rarely comprehensive. Administrative, hospital and health centre records are limited only to that part of the population using the health care system, but it is estimated that in developing countries health services miss on average approximately two fifths of the population and those missed are likely to be precisely the target groups for health policies.[33] Thus household sample surveys are a fundamental source of health information and their use in developing countries is increasingly common. In the National Household Survey Capability Programme, many of the survey programmes initiated during 1983-1985 included data on health, usually in conjunction with other topics such as nutrition, housing, water supply, employment, and the like.[34]

The essential point is that health surveys should contain enough common variables, described in standard categories, to allow the replies to be linked (individually or in matched groups) with other sample surveys giving more detailed information on relevant economic and social circumstances, such as education and housing. Such integrated programmes of household surveys, including health information, have been formulated, for example, in Zimbabwe and Ethiopia.[35]

Besides household surveys, much more use can be made of community surveys in which the unit of study is a local area or settlement. Such community surveys, especially interesting for rural areas, may include information about health facilities available to the community as a whole, health care personnel and establishments, water supply and sanitation and so on. The place of community surveys in studying linkages between different elements in living standards, including health conditions, is dealt with below in chapter VII, section C.

Time-use surveys, discussed in chapter III, section B, above, also have a part to play in health statistics, providing data on time away from work because of illness and time spent in visits to health facilities.

C. Economic measures and national accounts

1. Expenditure and consumption

In chapter III a general reference was made to the difficulties that arise from the SNA division of consumption expenditure between public and private sectors. Difficulties are apparent both in measuring total national expenditure - even total public expenditure - and in making meaningful international comparisons. The problems in the presentation of expenditure on health care are particularly acute, leading to differing interpretations of the SNA recommendations. The reason for the special problem in health accounting is the variety of institutional methods for administering and financing health services. The problem is recognized and discussed in SNA with reference to health services,[36/] but experience suggests that many uncertainties and ambiguities remain.

Broadly, two types of health care systems, from the perspective of public regulation and financing, prevail. The first system, which is the most common in western Europe, is that in which the eligible user of the system either (a) pays in the first place for medical services and is subsequently reimbursed, in whole or in part, from social security funds or from contributions to a government-regulated insurance company, or (b) receives the service free or at a highly subsidized price, the social security funds or regulated insurance company reimbursing the supplier (hospital, physician, pharmacist). Prices and charges are generally controlled or regulated by the Government. The whole expenditure, under SNA, is attributed to the consumption of the household sector; reimbursements appear as an unrequited transfer from Government in the income account of the household sector or as government payments to the supplier of subsidized goods and services. Thus, government "consumption" of health care (or final consumption expenditure) is very small (mainly administrative costs and the like) and household final consumption accounts for the great bulk. Under the second system (that holding in Denmark, Ireland, the United Kingdom and countries with centrally planned economies) the service is directly provided by a government agency and paid for from general taxation. The Government pays the staff, owns the hospitals and other facilities and purchases medicines and equipment. The beneficiaries receive services either free or for relatively small payments. Under this system, the bulk of health expenditure is recorded, in SNA, as general government "consumption" (or final consumption expenditure) and household expenditure is small.

Problems of dealing with these different types of systems for accounting purposes are further complicated by other factors. Many countries' health financing systems are a mixture of the two types: for example, hospital treatment may be free but other services paid for and reimbursed; and the systems change. In addition to use of publicly supported systems, households may also pay for private care, directly or through private insurance companies, or with help of non-profit-making bodies such as charitable institutions. In some countries, including the United States and some European countries, the bulk of expenditure on health care is paid for privately by households and is recorded under household consumption[37/].

Partly because of these problems, the international compendiums of statistics provide rather limited information on the amounts and structure of public and private expenditure for health care. A review of the data in the United Nations Yearbook of National Accounts Statistics 1978[38/] shows that of 24 OECD countries listed, only 15 provided figures of general government final consumption expenditure under the COFOG function "health affairs and services", and only five gave figures for unrequited current transfers to households under this function. By contrast, nearly all OECD countries gave figures of household consumption expenditure, under "medical care and health expenses". Of the 115 non-OECD countries using SNA (mainly developing countries), 38 give general government consumption expenditure for health but only seven give current transfers; 33 show household consumption - a number which should increase with the growing use of sample surveys.

The paucity of data on transfer payments is particularly significant in view of their importance in most health systems and makes it impossible to see how much consumption is ultimately financed from public funds. One reason may be the difficulty of distinguishing between transfers and subsidies under the "social" functions, as discussed above. For health (as for housing - see chapter VII), it is worth considering whether the distinction is really worth making between (a) government subsidies to, say, pharmacists for providing prescriptions free or at low prices, and (b) unrequited transfers to households to reimburse them for purchases of medicines.

Somewhat different interpretations of the international guidelines can be found by comparing the statistics for some countries in the United Nations yearbook with those in the OECD National Accounts of OECD Countries and in the EUROSTAT National Accounts ESA, and with national sources. As an example: for the Federal Republic of Germany, where the system is administered through a large number of government-regulated insurance funds, most health expenditure is allotted to general government consumption expenditure in the United Nations and OECD yearbooks and in the national source, but not in the EUROSTAT yearbook, where it is treated as private consumption expenditure offset by transfers. For Italy, most health expenditure is also allotted to government consumption in the EUROSTAT and OECD yearbooks and in the national source (Annuario di Contabilità Nazionale) but to private consumption in the United Nations yearbook. The differences seem to lie in different treatments of the insurance funds, not immediately justified by differences between the SNA and ESA guidelines. Such divergences of treatment, which can lead to misleading comparisons of the extent of public financing, call for reconsideration and clarification of the international guidelines by continued consultation among the international and national statistical agencies.

Apparent differences between countries in health expenditure statistics owing to different financing systems could be avoided by renouncing the different treatment of the two systems. Thus, all general government expenditure on health care, whether by direct provision of services or by reimbursement transfers or subsidies, or at least that part of expenditure which is assignable to households, might be shifted to household consumption. The effect of the shift on the division of consumption between public and private consumption would be substantial.

A less radical solution to the SNA structure, proposed by Jean Petre and discussed in chapter IV, would be a dual classification of "expenditure" and "consumption". This would be particularly applicable to the health system. "Expenditure" would be differentiated largely as is done at present, according to whether the Government or the consumer ultimately pays, thus preserving the sectoral structure of SNA. But "consumption", at least the "divisible" part of it, would be ascribed to the user, for example, to households as the beneficiaries, whatever the system of financing.

Another solution may merit consideration - although involving significant changes in sector allocation. Where insurance companies administer the financing of the public health system, they may legally be private enterprises, but they are generally rather tightly controlled by government regulation, contributions to them may be compulsory, and they may indeed receive public subsidies. There may well be a case for treating such companies as "agents" of Government, being instruments of social policy, and so part of the general government sector.[39/]

Especially in the field of health care, the informative value of SNA could be greatly increased, and risks of misinterpretation reduced, by measures of the total consumption of the population combining public and private expenditure, as discussed in chapter IV, section D, above.

2. Treatment in the Material Product System

For countries following MPS, total consumption of the population, incorporating both public and private expenditure, is the principal indicator appearing in summary presentations in the United Nations and CMEA yearbooks for each category of consumption. At this summary level, the problem of sectoral allocation does not arise. Moreover, the greater part of health care is provided free of charge using general tax revenues. However, private households do in fact make significant contributions (direct payments for certain medicines, for private services of doctors and the like), and enterprises, trade unions and administrative establishments provide substantial health (and other social) goods and services for their employees. These are all included in total consumption of the population.

The basic MPS analysis, as standardized by the guidelines of the Standing Statistical Commission of CMEA,[40/] is restricted to material consumption (medicines, equipment and the like), and excludes the wages and salaries of medical personnel, who belong to the "non-material sphere". However, the CMEA Statistical Commission now recommends that data also be given for recording total consumption of the population by commodity and service of the expenditure on wages and salaries for services provided by the non-material sphere serving individuals (regarded in MPS as a redistribution from the material, or productive, spheres of activity).[41/] The distinction is also made between activities "serving individuals" (roughly what has been described here as "assignable") and those "serving the community as a whole".

The basic standard classification of consumption in the CMEA guidelines is a much shorter list than that in SNA or COFOG. The general category "consumption of material goods by institutions providing cultural services, amenities and social welfare services to the public" has only three subdivisions: housing and public utilities and amenities; education, culture and art; health services, social security and physical culture. For several countries, however, separate data for health care are generally available; they are shown in the United Nations Yearbook 1980 (table 9a) for the wider concept of consumption, including non-material services, for Hungary, Poland and Yugoslavia.

Much more detailed information about health care is, of course, provided in national sources, for example, in the Hungarian national accounts, which separate household purchases (about 10 per cent of the total) from goods and services supplied free of charge and also show transfers. Comparisons for consumption of health care and for other categories between countries of eastern and western countries have been made experimentally.42/ The International Comparison Project also includes in its third phase data for four countries (Hungary, Poland, Romania and Yugoslavia) using the MPS system.

3. Satellite accounts for health goods and services

The value of "satellite accounts" as a way of supplementing the summary data in national accounts and of extending their range, without either overburdening the national accounts with detail or disturbing their overall structure, was stressed in chapter IV. Some of the problems of comparability of the economic measures involved in health care already discussed can be considerably reduced by a satellite account bringing together in a coherent and integrated presentation all the transactions relating to the sectors which pay for, use and produce the goods and services concerned. It can also include activities related to health care which might appear (especially in government expenditure) under other functions (e.g., the monitoring of water supplies). The important point, for a clear integration of statistical systems, is that those flows in the satellite account which coincide with those in the overall national accounts should be explicitly shown, for example, by a reconciliation table.

Further, a satellite account provides a valuable opportunity for bringing together in a single framework the accounting data and the various non-economic statistics. For health care these should include statistics of staff, facilities, rates of usage, population at risk, coverage of services, relevant vital and demographic statistics and so on. The satellite account can embrace the distribution of "assignable" services in the population, classified by socio-economic group, income levels, regions of the country, age and sex, and so on.

In France, a provisional satellite account has been published for health, "Les comptes de la santé; méthodes et séries, 1950-1977".43/ Table 2 is based on data from this account. A number of other countries publish periodical compilations of health statistics - covering both economic and non-economic data - which, even if not in the form of satellite accounts and

Table 2. Summary account of total current expenditures for health goods and services.

France 1976

(In billions of French francs)

	Health goods and services					Total national health expenditures
	Medical				Other d/	
	In-patient a/	Out-patient b/	Retail trade c/	Total		
	(1)	(2)	(3)	(4)	(5)	(6)
Sector of expenditure						
General Government and social security administration e/	48.8	21.0	14.8	84.6	-	88.4
Government producers f/		(3.8)		3.8	4.7	8.5
Co-operative societies	0.5	2.0	1.7	4.2	-	4.2
Households g/	3.6	12.0	9.3	24.9	-	24.9
Total	53.0	35.0	25.8	117.6	4.7	122.3
Type of activity						
Hospitals a/	48.8	1.5	0.3	50.5	-	50.5
Independent professional medical practioners h/	3.4	28.8	-	32.2	-	32.2
Retail trade c/	-	-	25.5	25.5	-	25.5
Other medical activities	0.9	7.4	1.1	9.4	-	9.4
General Government, other health activities d/	-	-	-	-	4.7	4.7
Total	53.0	37.7	26.7	117.6	4.7	122.3

Source: "Les comptes de la santé, méthodes et séries 1950-1977", collections de L'INSEE, série C, no. 74 (Paris, June 1979), tables 23, 37, 38.

a/ Further divided in the French accounts among publicly and privately operated hospitals, lodging costs, fees and patient transport.

b/ Further divided in the French accounts among doctors, auxiliaries, laboratory analyses, dentists, thermal establishments, preventive treatments.

c/ Further divided in the French accounts among pharmacy, optical and orthopaedic.

d/ Medical education, medical research and certain public health services such as water controls, health education, road safety.

e/ Mainly consists of reimbursement of treatments in whole or part, plus administration of reimbursements.

f/ Services provided by the Army, prisons, and national railroad, certain subsidies, and "other health goods and services" (col. 5).

g/ Includes non-profit-making bodies.

h/ Further divided in the French accounts among doctors, dentists, medical auxiliaries.

i/ Further divided in the French accounts among laboratories for medical analysis; dispensaries and health care centres; ambulance enterprises; thermal establishments; other.

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not always clearly related to the national accounting systems, are intended for the special interests of those concerned with health policy, with the detailed analysis of health conditions, with supply and demand for medical facilities and with health economics in general.

D. The boundary and content of health goods and services

The discussion so far has made little reference to what activities should be included in the concept of health services, and how they should be classified. A most useful approach to this question is to see what problems arise from the detailed definitions set out in the international guidelines for national accounts, referring in particular to COFOG. Analysis of national practices is more difficult since the pattern of the basic information is bound to originate from the administrative organization in each country.

Among the "boundary problems" are the treatment of the following activities which may in practice be allocated to general government expenditure on health or to expenditure on other government functions:

(a) Medical services in schools. Assigned to the education function by COFOG, but in some countries included under health (depending perhaps on which agency is responsible);

(b) Medical services for military and civil defence. Mainly assigned by COFOG to the defence function;

(c) Medical services in prisons appear to be included by COFOG in prison administration;

(d) "Social homes" (for old people, children, handicapped, mentally disordered) are assigned by COFOG to "welfare affairs" except when "medical monitoring is an essential component". However, the distinction may be difficult to draw;

(e) Medical education and training is classified by COFOG under education, but medical training provided in hospitals is often difficult to separate from the hospital accounts;

(f) Medical research is included by COFOG in health (apart from "fundamental research"), but by the MPS classification in education and science;

(g) Veterinary services in COFOG fall under agriculture (but under the MPS classification are assigned to health);

(h) Preventive health care can take two forms: (i) services to individuals (immunization, disease detection services), included by COFOG under the health function; (ii) collective services (such as water control services, food inspection, pollution abatement, and the like) which mostly appear to fall under "housing and community amenity affairs and services";

(i) Professional and social rehabilitation (treatment of the consequences of disease, disability and the like) feature in the separate compilation of health statistics of the Federal Republic of Germany under the heading Krankheitsfolgeleistungen; it is not clear whether they are included under health care in the national accounts. These services are presumably included in the general descriptions of the health function in COFOG but require special mention.

The MPS "boundary" of health services is broadly the same as that in COFOG (apart from exceptions noted above).

These questions about the boundary of the health function (and more questions could no doubt be raised) all arise from the necessarily vague concept of "health care". International guidelines cannot provide a Procrustean bed into which all statisticians must be expected to fit their data; too much depends on national differences in the sources and administrative structures from which the statistics must be derived. Further, for many of the items listed above the amounts of expenditure concerned are too small to be a serious impediment to international comparability. None the less, there are points on which clarification of the international guidelines (especially COFOG) would be helpful.

It is also desirable that a distinction be made, if possible in the national accounts but in any case in estimates of total consumption of the population, in satellite accounts, or in other specialized compilations of health statistics, between:

(a) Basic health activities, including hospitals, medical and dental practitioners, medicines and appliances. These services can generally be regarded as assignable to individuals. Based on household surveys and other sources, they can also be divided among groups and classes of households;

(b) Associated activities, so far as they can be separately distinguished, including administration, medical education and research, medical services in schools and defence establishments, which must normally be regarded as collective services.

It is also essential that full information be provided on just what is covered by each set of statistics and, in particular, how the figures of expenditure can be reconciled with those in the national accounts statistics.

VI. INTEGRATION OF STATISTICS ON EDUCATIONAL SERVICES

The design of educational statistics is bound to be influenced by institutional structures, which vary widely among countries. On the initiative of the United Nations Educational, Scientific and Cultural Organization considerable progress has been made in the difficult task of identifying and classifying the common elements in educational systems and providing a common framework of analysis. A number of problems in educational statistics will be noted here which bear on their use for analysis in association with other social and economic statistics.

A. Sources of data

For most current statistics on education, whether about people or money, the main sources are administrative records of educational establishments and accounting records of public authorities. However, such records usually relate only to public sector activities. Gaps generally need to be filled by other methods, usually special, small-scale inquiries. For organizations and enterprises providing education outside the state system, there can be substantial difficulties in obtaining access to the information required and especially to have the information in a form which matches public sector data. Thus, sampling is often necessary.

An important complementary source is household surveys, which have the advantage of making possible the correlation of data on education with other attributes of the respondents, such as location, occupation, educational background, household composition, income. Time-use surveys could also add useful information, for example on study at home. Finally, censuses of population usually include information on various aspects of education and can permit very detailed breakdowns associating educational attendance and attainment of individuals with a variety of social, demographic and economic attributes. Disadvantages of census data are delay in publication and infrequency of data collection. Thus, it is important that the categories used in sample surveys be consistent with those used in censuses.

B. Statistics on students

1. Enrolment

The most commonly used educational statistics, for international or inter-temporal comparisons and for policy planning, are the statistics of enrolments - the number of pupils enrolled at various levels of education. The United Nations Educational, Scientific and Cultural Organization has developed the International Standard Classification of Education (ISCED),44/ which is now widely used to standardize these statistics. The three main levels - primary, secondary and third level (higher education) - are distinguished based on learning content of the courses offered. Statistics of enrolments and other aspects of educational systems are collected from

countries and published by UNESCO in its Statistical Yearbook. Data on enrolments are often expressed as ratios of enrollees to the population in what is generally regarded as the usual, or official, age-group for the level concerned.

Again, because of the variety found among educational systems in different countries (and the frequent reorganization of educational systems), international comparability in such matters as enrolment ratios at different levels is bound to be uncertain. As examples:

(a) Some pupils at each level, especially in developing countries, will be outside the usual age-group, thus falsifying the ratios. For international comparisons, the combined ratio for the first and second levels is a much more reliable indicator;

(b) The same problem arises for higher education, where UNESCO reports the ratio of students enrolled to the population aged 20-24. In fact, data on students by individual years of age show, for example, only just over half the students in France fall within this standard age-group, and less than two thirds in the Federal Republic of Germany and the United Kingdom.45/ If enrolments by age are not available, or too inconvenient for presentation, use of a wider age-range, such as 17 to 27, might be more meaningful;

(c) There are many problems in defining what kinds of establishments should be included for each level. Comparison of data reported by some countries to international organizations reveals a number of differing interpretations. For higher education, treatment of part-time students or of the variety of non-university and other special institutions offering courses, such as the British Open University and the Fachschulen in the Federal Republic of Germany, is not consistent.

2. Attendance and absenteeism

It is a sad fact that enrolments on school registers do not necessarily signify completely regular attendance at school. Enrolment registers are normally kept and reported to the educational authorities. They may form, for example, the basis for allocation of finance, supplies or equipment and the like. Headmasters and class teachers may also keep daily registers of attendance for their own administrative purposes and to keep control over absenteeism. But it is perhaps less common for figures of attendance to be calculated and reported for local or national statistics. The extent of absenteeism is, however, clearly an indicator of the effectiveness of the educational system. It is likely to fluctuate locally and seasonally, with distance from school and from other factors. However, to insist on regular and frequent reports from all schools might well overload the statistical system. There is thus a strong case for periodical sample studies which could at the same time investigate the social background and other circumstances responsible for particularly high (or low) rates of absenteeism.

3. Studying abroad

The significance of national enrolment ratios, particularly at the third level, must be qualified by the substantial and growing numbers of students studying abroad, especially those from developing countries. This quite important figure is not recorded by the "sending" countries, and it might be suggested as a possible addition to the fund of information, if enough developing countries (and developed countries) are in position to supply such information.

From the statistics compiled by UNESCO[46/] and by EUROSTAT from receiving countries, it appears that about 900,000 third-level students are found outside their own countries, of which over half are developing country students in developed countries. These cross-flows of students can be regarded as a form of technological transfer, in a broad sense, of considerable social significance and deserving fuller analysis.

4. Qualifications obtained

The UNESCO Statistical Yearbook 1981 gives - for third level only - the number of graduates, for example, those "who have successfully completed their studies". The figures are divided between levels 5, 6 and 7, and by fields of study. National statistics provide a much wider range of information about the numbers acquiring specific qualifications, but in view of the well-known problems of comparability between the various national qualifications, it is difficult to know whether a more detailed analysis than that of UNESCO would be practicable at present. As pointed out below, the harmonizing of professional qualifications is proceeding, although very slowly, within the European Community.

The systematic analysis of the numbers passing from stage to stage of the educational process requires data about entrants and exits, with or without the requisite qualifications, at each stage and the length of time passed in each stage. This can take the form of the human stock/flow matrix proposed by Richard Stone and illustrated in his report for the United Nations, Towards a System of Social and Demographic Statistics.[47/] This statistical tool serves a useful purpose both in analysing the changing structure of an educational system and in making projections, on the basis of trends in transition proportions, as a guide to future requirements.

5. Fields of study

UNESCO has devised a classification of fields of study as part of its international classification of education. This classification is widely used in the most recent yearbooks but the exact presentations vary. These differences are unfortunate in view of the weight attached to such data in assessments of educational systems.

6. Vocational training

For few countries is there comprehensive or well-defined information about formal vocational training, in the sense of training for a specific occupation or class of occupations. The statistical problem, apart from the problem of definition, is that such training may take place within the regular educational system or outside it (notably within enterprises). The size and pattern and comparability of vocational training systems is at present a matter of concern to the European Community countries, where there is a considerable demand - as there may be elsewhere - for more information, especially in view of current needs for training and retraining appropriate to changing economic and technological requirements of the labour force. But the distinction between general and vocational training is difficult to apply and statistics are hard to collect.[48/]

C. Measures of educational attainment and achievement

For many years there has been interest in the theoretical and statistical concept of "human capital" as a potentially measurable development factor in development and for the purpose of addressing practical problems in manpower planning to match supply and demand for people with given educational qualifications or achievements. The principal sources of data are censuses of population, sometimes supplemented and updated by sample household surveys.

A basic measure is the extent of literacy, which features among the social indicators in many sources. For the most part, the data on literacy come from population censuses, but these data tend to depend on respondents' statements of their capacities to read and write. It has been suggested that a more reliable method would be actual tests of literacy, for example as part of a post-enumeration sample survey or special survey.

A second statistical measure consists of a record of the numbers and proportion of people who have passed through various stages of the educational system. Such measures, again, are generally derived from population censuses, but are often supplemented by household surveys. UNESCO issues statistics in terms of percentages of the total population that have received education at each of five stages (or no schooling), by sex, generally for the population aged 25 and over, and sometimes separating urban and rural populations. Although 136 countries provide some information, it is frequently incomplete. An alternative measure of the "stock of education" could be based on "years of education completed".

D. Economic measures

1. Expenditure

Statistics of educational expenditure are provided in several international sources but with substantial differences of coverage and definitions. Two world-wide sources are the UNESCO Statistical Yearbook (sect. 4) and the United Nations Yearbook of National Accounts Statistics. The UNESCO data are more detailed in many respects, providing current expenditure by level of education and also type of cost (administration, pay of teachers and auxiliary staff, teaching materials, scholarships, welfare services). On the other hand, unlike SNA, they relate to public expenditure only (including subsidies to private education).

The United Nations national accounts yearbook (1980) shows a substantially more limited response, by both developed and developing countries, than that for UNESCO. Of the nearly 140 market economies listed in the yearbook only 57 (17 developed and 40 developing) provide any information about general government expenditure on education (mostly the same as those giving figures on the health function), compared with about 150 market economies giving some information to UNESCO. Of these 57, only 14 (six developed and eight developing) show general government expenditure by economic category (final consumption, current unrequited transfers, capital formation, subsidies and so on) and several of these failed to give data on transfers. The remaining 43 show final government consumption expenditure.

One reason for the relatively poor response to the United Nations, compared with that to UNESCO, may be that SNA is essentially an integrated system requiring a complete analysis of government expenditure on all functions. The UNESCO requirements may be met independently of a national accounting framework for the overall analysis of government outlays. Efforts to bring the UNESCO statistical requirements into closer accord with the national accounting conventions are clearly desirable, but it must be borne in mind that many countries appear to be unable to provide data for the full SNA classification of expenditure by function; the risk of reducing the response rate should not be ignored.

Private expenditure on education (generally including non-profit-making bodies) is not covered by UNESCO. Fifty-one market economies (21 developed, 30 developing) provide data for the United Nations yearbook (1980). Total current expenditure on public and privately financed expenditure ("total consumption of the population"), of which the desirability is generally recognized, can be got, among market economies, from the data provided to the United Nations, for only 36 countries (14 developed, 22 developing). Figures are also available from the yearbook for six countries using MPS, but in some cases only for the material and material-related expenditure and in all for a broader category including education with recreation, culture and so on. However, the special studies conducted for the International Comparison Project also show that with sufficient persistence it is possible to produce close approximations to comparable data on total public plus private current expenditure for education (as for health) on SNA lines for a large number of countries.

2. Satellite accounts for education

Reference was made in chapter IV, section E, above to the value of satellite accounts which bring together all financial flows related to a given function - if necessary, overlapping with other functions but, in principle, consistent with the data in the national accounts. In France, the National Institute of Statistics and Economic Research (INSEE) has devised such a satellite account for education - "Le compte de l'éducation et des formations".[49/] The satellite account shows separately a number of subsidiary activities such as school health services, educational research, required school sports, training in enterprises, military training and school transport, which might not be included in other figures of educational expenditure.

E. Social factors associated with education

Population censuses in themselves, being multi-subject data bases, offer many possibilities for cross-tabulating educational experience against demographic and socio-economic characteristics. The published data generally show at least aggregative associations between educational achievements (which may be expressed in terms of levels attained, qualifications or length of schooling) and occupation, sex and age, local areas and so on. Similarly, the Labour Force Sample Survey reports of EUROSTAT include, periodically, information on the educational attainments of workers (year when full-time education ended, highest level attained, field of study) which can be associated with current occupation or industry.

Household surveys including information about educational achievements can yield similar cross-tabulations. For example, the United Kingdom's General Household Survey for 1979, relating earning to education of members of the labour force, showed that of men who had attended universities nearly 80 per cent were earning more than 100 pounds a week compared with 50 per cent of men attending other third-level establishments and 35 per cent of men whose full-time education ended in primary- or secondary-level schools.[50/] In the United Kingdom, too, particulars of the social class of (the parents of) university entrants are collected. They show that nearly three quarters of entrants come from the two (out of five) "higher" classes against one quarter of the total 18-year-old population.[51/] Again, an instructive analysis of French university students by socio-professional class (of the parent) is obtained from university records and can be compared with the composition of the French population in the relevant ages as shown by the population census. The results are summarized in table 3 and exhibit the familiar strong differentiation between social groups in attaining university-level education.

Such analysis of levels of education by social groups seems particularly important for the future planning of educational facilities, especially at the third level. Thus, simple demographic extrapolations of population by age-groups, for example (for numbers at the normal age for entry to universities), ignoring differentiation by social group, may be seriously misleading if the proportion of population in each social group should

change. If, for example, as has been the case in several countries, the proportion in the "higher" socio-professional groups with their high rates of university participation increases, the number of students going to university education could increase more than proportionally to demographic change. Thus, future "demand" for education is likely to be determined by, among other things, changes in social structure, as well as by demographic factors.

Association between educational attainment and subsequent occupation can also be shown with broad categories from population censuses. More detailed information is obtained in some countries from special surveys, for example by questionnaires to former students, but these are limited in value by the difficulties of maintaining accurate overtime. To cover longer periods, EUROSTAT is promoting work on the transition from education to working life using sample surveys linking educational experience with occupation 10 years after the termination of full-time education.

Table 3.

Distribution of university students
by socio-professional origin in France

	Per cent distributions	
	Total population a/	Students enrolled b/
Farmers	9.5	5.4
Agricultural workers	2.0	0.4
Employees	8.7	10.9
Liberal professions and senior management	8.3	33.7
Middle managers	8.5	17.5
White-collar employees	8.7	9.1
Manual workers	40.7	12.9
Service personnel	2.5	0.9
Other	2.1	6.4
No profession	9.1	2.8
Total	100.00	100.00

Source: INSEE, Données sociales, édition 1981. Total population from table 225; students from table 232.

a/ For 1975.
b/ For 1977/78: relates to French students enrolled in universities supported by public funds.

VII. INTEGRATION OF STATISTICS ON HOUSING AND HUMAN SETTLEMENTS

It was noted in chapter I above that censuses of population and housing in and of themselves are a rich source for a considerable range of social, demographic and economic data which can be integrated, and some examples of possible cross-tabulations were given in subsequent chapters on health and educational services. In the present chapter various data available on housing conditions and related human settlements topics are summarized. Again, census statistics serve as benchmarks and are commonly supplemented by a variety of statistics from household surveys and current housing statistics.

A. Basic data

1. Housing censuses

Most basic census topics have been incorporated in international guidelines in the United Nations Principles and Recommendations for Population and Housing Censuses.[52] International data, drawing mainly on the 1965-1975 census decade, along with some additional figures from other sources, are presented in two United Nations compendiums: the Compendium of Housing Statistics 1975 - 1977 and the Compendium of Social Statistics 1977.[53] More recent data, up to 1983, are presented in the United Nations Compendium of Human Settlements Statistics 1983.[54]

These housing and social statistics compendiums show that nearly all countries are able to give some information on most basic housing topics. Some significant exceptions are noted below and may indicate difficulties in data collection facing some countries in following all the United Nations recommendations. These problem areas in turn impinge on possibilities of developing integrated statistics concerning housing:

(a) Characteristics of buildings (age and type of construction material). No figures appear in the compendiums. The most significant information bearing on the quality of the housing stock may be the age of the dwelling. However, this is unlikely to be known to many occupiers and may have to be sought by special surveys or possibly from administrative records. Studies by ECE of the age of housing stocks show that estimates are available for a number of European countries;[55]

(b) Water supply system (inside or outside). Most countries give some information. The data in the Compendium of Housing Statistics relate only to urban areas. The Compendium of Social Statistics, however, shows statistics for urban and rural areas separately for about 70 developing countries and also presents data collected by WHO for 91 developing countries for 1962 and 1970 (the results of special inquiries). Further efforts are needed to extend and harmonize information on water supply from censuses and special surveys;

(c) Rental payments (including data on services included). Information on rental payments is given for only about one in three countries and is derived from national accounts statistics. Because of the difficulties of

defining rental terms and conditions and of dealing with owner-occupiers, the value of seeking information on rents in a general census may be doubted;

(d) Slums and squatter settlements. The Compendium of Social Statistics, but not the Compendium of Housing Ststistics, gives statistics of the number of people in urban areas living in "slums and squatter settlements". No standard definitions for these terms are suggested. The value of international comparisons of these imprecisely defined concepts must be open to doubt.

2. Construction statistics

Closely related to census information on housing conditions are statistics about the construction of new dwellings (and the refurbishment of existing ones). Both the Compendium of Housing Statistics and the Compendium of Social Statistics provide tables for recent years on new dwelling construction in number of units, generally including restorations, conversions and extensions, with rates of construction per 1,000 inhabitants. These figures normally come from administrative records (sometimes from permits issued). Rather few developing countries (about 30) report figures, but coverage of developed countries is fairly complete. However, each publication adds a warning that the statistics "are frequently of low quality".

The inadequacy of information on construction of dwellings appears as a rather serious gap for any assessment of housing progress. In addition, cumulative figures of new dwellings constructed over a number of recent years, when set against the stock as shown in the last census, are needed to provide a rough indicator of changes in the quality of the dwelling stock.

Detailed recommendations for construction statistics were issued by the United Nations in 1968.[56/] A supplement, with additional topics of particular interest to European countries, has been issued by the Conference of European Statisticians and a subsequent addendum deals with statistics of house-building costs and prices.[57/] These recommendations form the basis for the regular publication by ECE of the Annual Bulletin of Housing and Building Statistics for Europe.

3. Human settlements statistics

The Compendium of Human Settlements Statistics 1983 enlarges the range of topics as compared to the Compendium of Housing Statistics. The new compendium, based on a questionnaire issued to Governments in 1982, adds separate data on the four largest cities over 100,000 population in each country. Data are included on population by type of activity, branches of employment and occupation; school attendance, illiteracy; duration of residence; native and foreign-born population; and dwelling construction in recent years. Most of these topics appear in population and housing censuses.

The human settlements questionnaire also includes a number of new topics on infrastructure and services in the countries, areas and cities covered as follows:

(a) Transport, energy and communications:

(i) Length of road (by type);

(ii) Road vehicles in use (by type);

(iii) Total and household consumption of electricity;

(iv) Radio and TV sets and circulation of daily newspapers;

(b) Health and health services:

Number of medical, dental and related workers;

(c) Environmental pollution:

Solid waste generation.

B. Statistical integration

The present section explores ways by which data on housing can be linked with data on social and economic circumstances of households derived from the census itself or from other sources. The interrelationships are inevitably controversial: social and economic tensions may be both cause and effect of poor housing conditions. Study of the interlinkages can easily become unmanageable. Here, a limited number of interrelationships which seem likely to be the most useful is suggested for consideration. An illustrative condensed scheme of cross-tabulations is given in table 4. It brings together data which might be expected to throw light on factors underlying the housing situation in a given area. This is intended principally for comparing housing situations among different areas within a country - but might also have its uses for international comparisons. The column headings are intended as a core of principal housing indicators from the many available: distributions of persons per room is a commonly used indicator of overcrowding, and percentages with piped water and with toilet are indicators of access to the main facilities. These data appear to be available for a large number of countries. The rows are a selection of indicators of economic and social factors which have a bearing on the housing situation in the area.

Construction of such tables would be a useful experiment: first to test whether the various sources available provide sufficiently consistent classifications of households; and secondly to see whether the linkages shown in the table could yield conclusions of value for the study of housing. The cross-tabulations would come from re-sorting and retabulating the original census returns. This requirement implies a fairly complex organization and integration of a variety of data files from the census and other sources, which must be faced if useful linkages are to be established. The measures of economic and social circumstances of households shown in the table are discussed below:

Table 4

Illustration of linkages between housing and household characteristics

	Total	Persons per room				Housing conditions		
		less than 1.0	1.0-1.9	2.0-2.9	3.0+	Average persons per room	With piped water	With flush toilet
Housing units/households								
Population in housing units								
Households according to activity status of head/reference person:								
Economically active								
Not economically active								
Households according to socio-economic group								
1. -								
2. -								
3. etc.								
Percentage of total household income accruing to fractile groups of households								
0 - 24 per cent of households								
25 - 49 "								
50 - 74 "								
75 -100 "								
95 -100 "								
Household according to tenure in housing								
Owner-occupants								
Renters								
Others								
Average household consumption expenditure for housing								
Owner-occupants								
Renters								
Others								
Households according to national or ethnic origin								
1. -								
2. -								
3. etc.								

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(a) Activity status of head/reference person. The basic source is the population census, supplemented by surveys. Activity status is useful where more significant indicators such as occupation or income are not available. One object is to identify the housing conditions of the households headed by the "economically inactive" - most often the elderly, but including also single parents, students and other groups;

(b) Socio-economic group of household. The basic source is the population census, supplemented by surveys. Aggregation of the eight major divisions of the ILO International Standard Classification of Occupations into four groups is probably sufficient for association with housing;

(c) Total household income. For most countries income data on a household basis for individual areas can come only from surveys. It is recognized that existing statistics present many inadequacies and lack comparability;

(d) Housing tenure. The classification of households as owner-occupiers, renters, and other forms of tenure (such as free accommodation) is included in the United Nations recommendations for housing censuses and in the preliminary guidelines for social indicators as a "useful measure of life circumstances".[58] Most countries appear to have this information, although it is often derived from sample surveys and restricted to a limited number of localities;

(e) Housing costs are separately compiled for renters and owner-occupiers (other tenures can be omitted). Data must normally come from surveys. Two problems arise. "Rent" can cover a variety of services (and taxes) included in rental terms, but except in very detailed surveys it may not be practicable to adjust these data to a standard definition, so for a summary review this problem may have to be ignored. Estimating rents for owner-occupiers is discussed below in section E.1;

(f) If ethnic origin of head of household is obtained in population and housing censuses, it should be possible to cross-tabulate this information against housing conditions. The classifications of origin depends on national circumstances and no internationally relevant criteria can be recommended.

Unrequited transfers received is not shown in the table as data collection and interpretation are problematic in most countries. In principle, two forms of transfers can be distinguished. Transfers for rent and general income support may include an allowance, explicit or not, for rent. Administrative records may provide some overall information, but not always a breakdown by suitable areas. Household surveys are probably the most practicable source of data for the cash transfers received. However, they cannot reveal the extent to which rents, particularly for publicly owned dwellings, are subsidized by public authorities. These issues are discussed further in section E below.

C. Community statistics

In recent years, there has been considerable international work on community-level statistics, taking whole communities as the statistical unit. Such studies need to go beyond census data and incorporate various features of the infrastructure and facilities relating to the community as a whole - data which may be drawn from special surveys or from administrative statistics.59/

As some indication of ways in which different data sources might be used to build up the physical, social and economic profile of a community, an illustrative cross-tabulation is shown in table 5. The geographical classification in the columns of the table is that used in the human settlements statistics questionnaire and compendium. It is useful for international comparisons. For national analyses, areas would presumably be chosen according to need and data available. For example, series could be compiled for rural communities. In this case series might also be added on distances from the nearest primary health care unit, first-level educational programme, second-level educational programme and markets.

The notes below follow the rows of the table, which present the data on the physical, social and economic characteristics suggested. An impression of the extent to which national data are available may be formed from the United Nations statistical compendiums already discussed.

(a) Population and housing conditions series can be derived from the census benchmarks;

(b) Land use data are available for a number of individual cities;

(c) Energy consumption, total and by households, of electricity only (kW per head) appears in the human settlements questionnaire and national totals are given for 57 countries in the Compendium of Social Statistics 1977, table III.72. Difficulties may well arise in providing breakdowns consistent with the geographical areas used for other statistics, depending on the area organization of electricity supply and distribution;

(d) Health and health services:

(i) Health personnel per 1,000 population is available for most countries from data collected by the World Health Organization and presented in the Compendium of Social Statistics 1977, table II.8. However, feasible local breakdowns may be limited;

(ii) As concerns mortality, the objective should be to identify patterns and levels of mortality in the different areas covered and causes of death that may be uniquely associated with specific areas and conditions in those areas, such as overcrowding, lack of sanitation, pollution. Statistics in the Compendium of Social Statistics 1977, tables II.5 and II.6, show that data by grouped causes of death are available for about 50-60 countries. Expert advice is, however, needed to determine which causes of death can most clearly be

Table 5

Illustration of integrated social and economic stastistics at the community level

	Urban areas	Four largest cities				Rural areas Regions				Total
		1	2	3	4	1	2	...	Total	
Population										
Number										
Percentage less than five years residence										
Rate of growth per year, most recent 10-year period										
Housing conditions										
Average persons per room										
Percentage of households with piped water										
Percentage of households with toilet										
Environment										
Percentage of urban area built up										
Population per ha.										
Urban recreational area, ha. per cap.										
Energy consumption										
(electricity, kW per head per year)										
Total										
Household										
Health and health services										
Health personnel per 1,000 population										
Infant and child deaths per 1,000										
Deaths per 1,000 population aged 5-14, 15-24, 25-44, 45-59										
Hospital admissions per 1,000 population per year										
Educational facilities										
Full-time teachers per 1,000 population										
Percentage of pop.aged 5-9, 10-14, 15-19, 20-24, in full-time education:										
Males										
Females										
Transportation										
Percentage of households owning one or more										
Passenger cars or vans										
Motorcycles										
Bicycles										
Recreational, cultural and communication facilities										
Number per 1,000 population										
Cinemas, theatres (seating capacity)										
Museums										
Percentage of housing units with television receivers, telephones										

associated with housing and environmental conditions. Again, too, the problem arises of getting figures for the appropriate area - which depends on the death registration system;

(iii) As concerns morbidity, annual statistics of certain notifiable diseases, also collected by WHO for 122 countries or areas, are found in the Compendium of Social Statistics 1977, table II.7. The incompleteness of the statistics from many countries must be recognized. Statistics relating only to hospital admissions are perhaps the best that can be hoped for;

(f) Educational facilities: The number of full-time teachers is available for most countries, generally derived from administrative records and separated by levels of education as defined by UNESCO. So are school enrolments. Data for school attendance are also compiled in the United Nations Demographic Yearbook from population censuses;

(g) Transportation series include the percentages of households owning cars and other vehicles. Administrative records are a possible source, to the extent vehicles are registered or taxed, but may not be broken down by suitable areas, depending on the registration system. Surveys would probably yield more appropriate local information;

(h) Series on cinemas, theatres and museums are suggested in the preliminary guidelines for social indicators and are collected by UNESCO. Series on television receivers and telephones in households are available only from special surveys.

D. Geographical classification

For the interlinkages illustrated for housing and for community-level series, some of the data are available for a large number of countries, and for nearly all the series standard international definitions have already been recommended - if not always observed. But the essence of this integration of significant variables is that they should be brought together for individual areas. The difficulty is that, for many of the suggested indicators, the local units for which records are collected vary widely. If the basic data derive from population and housing censuses or from sample surveys using the same geographical categories as the census, this difficulty need not, in principle, arise, although the basic statistics from the census may need to be retabulated.

It is hardly possible to find an ideal solution for all purposes, but it may be suggested that, since the geographical divisions used in the population and housing censuses are generally well integrated and bear some relationship, as a rule, to administrative areas, the aim should be to assimilate other data so far as possible to some combination of the census divisions. It is recognized that this aim cannot always be achieved; some inconsistencies in the geographical breakdowns of the indicators will have to be accepted. And

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when sample surveys are used, resources may not allow a sufficient sample size to fill some cells required for cross-tabulations in individual areas with significant numbers.

The census recommendations, the United Nations human settlements questionnaire and the preliminary guidelines for social indicators all call for aggregations for urban and rural areas. The distinction is clearly important. Standards and ways of living can differ widely between the two kinds of area - although less so today in many developed countries than in the developing world - but efforts to establish standard definitions, despite discussion among demographers and geographers over many years, remain unsuccessful. Thus, the United Nations census recommendations can do no more than suggest that "countries must establish their own definitions in accordance with their own needs".60/ The United Nations Compendium of Housing Statistics 1975-1977 gives an instructive list of the criteria used by different countries for distinguishing urban areas and shows how different they are. This analysis can justify no more than very rough generalizations for international comparisons of, say, the proportions or the circumstances of urban as against rural populations.

Various kinds of administrative records may be the most economical source - sometimes the only source - for several of the topics referred to above, especially in connection with community-level series. There are, however, two difficulties. First, the local boundaries of various administrative jurisdictions can vary widely. Health records may be kept for different areas from those for educational records; water or electricity areas from vehicle registration areas or spatial planning areas; and none may coincide with local government areas. It may sometimes be more economical or easier to organize special surveys than to break down existing records, especially if those records are not computerized. Secondly, administrative records are kept for administrative functions and thus may not cover the whole relevant population. Health records may relate only to public services, tax records to persons falling within the tax net and so on. These difficulties need not, however, impede experimentation.

Similar difficulties occur in integrating data about households. A case in point is the linking of housing conditions with rent subsidies or other social transfers. Administrative records presumably contain the necessary data about individual households, but in addition to the technical problems of matching different data about households, confidentiality of the records will cause difficulty.

E. Housing in the national accounts and balances

Two problems are considered in the present section concerning integration of national accounting data with the statistics discussed above: the treatment of household income and expenditure arising from owner-occupied dwellings and the treatment of public expenditure on housing and related services.

1. Owner-occupied dwellings

The most usual practice in national accounts, following SNA, is to impute an annual rental value to owner-occupied dwellings, generally based on market rents of similar rented dwellings. This method presents the greatest difficulties when dwellings rented in the market represent only a small proportion of the housing stock or when a large proportion of rented dwellings is subject to rent controls. In the Material Product System, the simple solution is generally adopted of excluding any allowance for imputed rental income, but actual maintenance and repair costs are included in total consumption of the population.

For national aggregates, lower-level inconsistencies may be negligeable. It will be observed, for example, that most countries, in their figures reported in the United Nations Yearbook of National Accounts Statistics, combine rents, both actual and imputed, with other housing costs under consumers' expenditure. For less aggregated analyses or for international comparisons, however, conformity with the standards is more difficult and inconsistencies can be misleading. Two solutions allowing disaggregation may be considered. The first is based on the United Nations provisional income statistics guidelines. When a major source for statistics of the distribution of household incomes is household surveys, the definition of income (and expenditure) in surveys must be adapted to the information likely to be available to respondents and investigators. Although it is highly desirable that the definitions for income distribution statistics should accord with those in the overall national accounts, there may be good practical reasons for departing from them in certain cases. The alternative to speculative imputations of imputed rents is to record actual payments made, that is, payments on mortgages or other housing loans (interest plus repayment of capital, since the division may not be known to the occupant). The actual payments rather than the imputed rental values are likely to determine the household expenditure pattern. Further, in inflationary times, the SNA treatment means that imputed rents are assumed to increase along with market rents (there is an unrealized capital gain), even though owner-occupiers' actual outgoings may not have risen proportionally or at all.

A more elaborate method of calculating rental costs has been adopted in the United Nations International Comparison Project and is applied to both owner-occupied and rented dwellings. The object is to estimate the quantity of housing on an internationally comparable basis, taking into account differences in quality. The method is to calculate the purchasing power of rent payments, as shown by actual market rents, by relating them, through multi-variate analysis, to the physical features of the stock of dwellings (number of rooms, floor area, date of erection, facilities, services included in the rent, and so on). Some of these data appear in housing censuses, others in existing surveys, while in some countries special samples are taken for the project. Although the purpose of ICP is comparison of national aggregates, the method could in principle be applied to comparisons among areas within a country. Essentially, the method calculates the price of a combination of physical characteristics making up a given dwelling unit. The method could equally be used to calculate changes over time in the price of housing. Experiments in the United States explore the possibilities of

providing in this way a more appropriate index of changes in the housing costs of owner-occupiers than assuming - as in the United States consumer price index - that costs change in line with market rents.[61]

These comments may be thought to justify reconsideration of the treatment of owner-occupied dwellings in national accounts, bearing in mind particularly the weaknesses of imputations based on market rents for international comparisons, for income distribution, for deflation of rental costs and for associated measures of real income and expenditure. At least it seems highly desirable that in the presentation of national accounts the imputed elements should be stated explicitly and separated from actual market transactions. This has frequently been suggested but is rarely done. The separation would assist reconciliation when different methods are used for the overall national accounts from those used for income distributions.

2. Public expenditure on housing and related services

(a) Housing

In many countries, including most developed countries, Governments actively intervene in the housing market for social and economic reasons (incidentally making it difficult to place housing squarely in either the market or non-market sector). The statistical problems of a full accounting of many economic flows related to housing arise mainly from the variety and complexity of the instruments used by different Governments. Some examples are:

(a) The renting of publicly owned dwellings at less than the current cost (including interest and depreciation) to the public authority. The amount of the subsidy, which could be considered an unrequited transfer in kind, should be calculable from the accounts of the public authorities concerned;

(b) Allowances to low-income households in either temporary need (for example, while sick or unemployed) or in long-term need. The allowance may be a specific allowance for rent or merged in general income support. Under COFOG, both (a) and (b) appear to be treated under "social security and welfare" (function 06.15 - "family and child allowances") rather than under "housing and community affairs" (function 07). If this is so, it means that a significant element in government housing policy would fail to appear under the housing function;

(c) Grants to households for improvement of houses. These should count (COFOG 07.11) as current unrequited transfers under the housing function (major restorations should presumably be treated as capital transfers);

(d) Grants to non-profit bodies such as housing associations or co-operatives. Paragraph 7.35 of SNA suggests that these should be treated as unrequited transfers;

(e) Capital expenditure by public authorities on the construction or major renovation of dwellings for rent or for sale.

Items (a) through (e) above could all in principle - although not without difficulty in practice - be distinguished in public authority accounts. However, there are many other forms of public intervention in the housing market which are more difficult to express in quantitative terms. These include:

(a) Tax concessions on interest payments by owner-occupiers, the promotion of owner-occupation being widely regarded as a policy objective;

(b) Loans on concessionary terms to various public or semi-public bodies (generally non-profit bodies). These are a very common form of housing policy, perhaps the most common in developed market economies. The major instrument of French housing policy takes the form of credit facilities for dwelling construction to non-profit bodies, of which the most important are the HLM organizations (Habitations à loyer modéré), allowing rents well below market rates for (in principle) low-income tenants.

From a national accounting point of view, two questions arise:

(a) Is it possible, or desirable, to calculate the size of the concealed transfer implied by loans on preferential terms?

(b) Should non-profit bodies for financing housing be regarded, in SNA, as parts of general Government in view of their clear relationship to government housing policies?

Finally, rent controls for privately owned rented dwellings have long been a significant element in housing policies, commonly associated with provision for security of tenure.

These problems are listed to stress the difficulties of compiling anything like a full account of the financial flows, actual or conceptually imputable, involved in government housing policies.

(b) Community affairs and services

SNA and COFOG group public expenditure on housing with that on "community affairs and services". Just what expenditures would come under "community affairs" as distinct from housing remains uncertain, and may well be interpreted differently in different countries.

(c) International statistics

Examination of the figures given in (or missing from) the three national accounts yearbooks (United Nations, Organisation for Economic Co-operation and Development, Statistical Office of the European Communities) suggests that the statisticians of many countries, both developed and developing, have found considerable difficulty in providing data in conformity with the international standards. These difficulties concern both government expenditure and household consumption. From a count of the countries providing figures under each of the 10 headings relating to housing and community amenities in the United Nations Yearbook of National Accounts Statistics 1980, it appears that:

(a) Few countries - even OECD countries - are able to give information about unrequited transfers or subsidies under the housing function. Such transfers may often be absorbed under the social security and welfare function;

(b) Under private consumption, few countries distinguish between rental costs (actual or imputed) and expenditure on fuel and power;

It may tentatively be suggested that one reason for difficulty is the SNA distinction between transfers (to households) and subsidies (to producers). The distinction is not an easy one to make when one takes account of the various forms of government financial assistance to housing enumerated above. If it causes confusion, it is appropriate to ask if the distinction is justified for housing expenditure.

(d) Total consumption of the population

In housing as in other areas supported by public expenditure, a complete picture of national expenditure can be drawn only by bringing together public and private expenditure to yield an estimate of total consumption of the population. For international comparisons this measure is certainly essential. It is also necessary for estimating what resources are devoted within any country to a particular field such as housing.

One useful approach is to establish a satellite account for housing (and community amenities, if desired) which would bring together all forms of public and private expenditure bearing on housing, wherever they are classified in the national accounts or other statistical sources. 62/ Work on such a satellite account would serve to show where the main gaps in information lie and to promote efforts to fill them. The various forms of public expenditure could be listed so far as information is available. An important point in compiling such satellite accounts is to make it perfectly clear how the items included can be reconciled with the presentation in the national accounts. However, in view of the insistence on the importance of geographical disaggregation of statistics relating to housing, it must be said that such disaggregation is particularly difficult, and sometimes impossible, for some of the statistical series normally used for national accounting - especially for some of the data of central government expenditure. As was suggested before, for a number of items different sources of information may have to be used for local area statistics.

Limited data for MPS countries are provided in the United Nations Yearbook of National Accounts Statistics. Of 15 MPS countries, 11 provide figures under one or more of the headings relating to housing (though many combine housing with other services - as, indeed, do many SNA countries). Data about capital formation are the most frequent. Figures of total consumption of the population are given by four countries, again covering communal and miscellaneous personal services, as well as housing. However, Hungary and Poland give separate figures for housing expenditure divided between gross rents and water and energy costs. No imputations for owner-occupied dwellings appear to be made. The United Nations yearbook contains no information about the government contributions to the current costs of subsidized rental housing. However, more information is available from other sources.63/

By the full use of national sources, including household budget surveys and the accounts of state agencies, it should be possible to produce estimates leading towards a reconciliation between the MPS and SNA systems and providing fuller information for both groups of countries about total consumption of the population and the proportional contributions of public and private financing.

VIII. CONCLUSIONS AND PROPOSALS FOR FURTHER WORK

The present chapter brings together in summary form suggestions made throughout the report for improving the collection, processing and presentation of related social and economic statistics with a view to developing linkages useful for socio-economic policy planning, monitoring and analysis. The suggestions relate both to the development of national statistical systems and to improving international harmonization.

A. Co-ordination of international statistics

The need for active co-ordination of the statistics provided in the various compilations of national data by the international organizations is discussed in chapter I, section C, and at many other points in the present study. It is recognized that those compilations, widely used for international comparisons, serve different purposes - some general, some specialized - but differences appear in concepts, definitions and in actual figures, not all of which seem to be necessary for the purposes of the organizations concerned. Work in progress on ironing out unavoidable differences should be energetically pursued to reduce the present risks of misleading and contradictory conclusions being drawn from alternative sources of information.

B. Methods of integration

1. Linkage using a socio-economic group classification

A most important instrument for linking different sources of data is a standard classification by a limited number of socio-economic groups that can be applied to statistics in a variety of economic and social fields (see chap. II). Examples are given of national classifications of this type, generally based on occupation. At least in developed countries the national patterns have much in common but also some differences. It is suggested that (a) national statistical offices should actively promote the widest possible use of a standard classification within their own countries; and (b) the possibilities of establishing an internationally harmonized classification should be explored during the revision of the ILO International Standard Classification of Occupations.

2. Integration using micro-data

Some of the difficulties of processing the data, especially micro-data, to establish linkages are set out in chapter III, section A. One problem generally stressed is that of ensuring the confidentiality of information about individuals, especially important in view of public disquiet at the

spread of computerized personal data files. Difficulties are experienced by statistical offices - including fears of discouraging co-operation by respondents - despite the technical possibilities of anonymous coding and depersonalization. The search must continue for ways of developing fruitful data linkages and at the same time ensuring protection of identifiable personal information.

A few examples are given in chapters V and VI of data linkages, using tabulations of micro-data, that have been established between, on the one hand, socio-economic factors and, on the other, mortality and ill-health and education. Proposals are made for linking socio-economic factors with housing conditions and with statistics on human settlements and communities (tables 4 and 5).

3. Integration using time-use data

Time-use surveys are recommended to add to the more usual statistics for a number of purposes (see chap. III, sect. B). To integrate time-use data into the body of socio-economic statistics it is of course necessary that the definitions and classifications should be compatible with those used elsewhere.

4. Summary

Overall, it is suggested that in order to make further progress in creating useful linkages - while continuing study of the technical and methodological problems - the most productive course would be to undertake experimental analyses of associations between prima facie connected data, making use of whatever information is available, even if incomplete. The most persuasive argument for devoting more resources to developing the data and processing should lie in practical demonstrations of the new insights which such linkages can give into the factors underlying the problems for policy.

C. National accounts and the social fields

National accounting structures represent a well-developed framework for economic analysis, based on the integration of a great variety of data sources; they can also serve as an organizing framework for analysis of resources devoted to social purposes (see chap. IV). To improve their usefulness and informative value for these purposes, the following suggestions are put forward which could be taken into account in current studies of national accounting systems:

(a) A main requirement is the more widespread breakdown of general government expenditure by function, or purpose, preferably along the lines of COFOG. The data reported (or failing to be reported) in the international yearbooks of national accounts suggest that many national statistical offices find difficulty in meeting this requirement;

(b) A particular problem seems to be that of distinguishing between unrequited transfers and subsidies and of classifying them by function. The COFOG guidelines might well be clarified and some subsidies to producers which fairly directly benefit households might be better treated as unrequited transfers to households;

(c) The concept of general government consumption or consumption expenditure, especially for the health and education functions, although based on the sectoral structure underlying the whole SNA, raises problems for international comparability. Differences between countries in their institutional arrangements for providing services - health care in particular - lead to potentially misleading international comparisons of government "consumption" of such services. It is suggested that there might well be more logic in ascribing the final consumption of these services to the sector which in reality consumes them - mainly the household sector - rather than to the sector which finances their provision. However, to avoid consequent, and perhaps unwelcome, adjustments to sectoral financing proportions, and to preserve the sectoral structure of SNA, the alternative suggestion is made for a dual classification of the relevant expenditures showing side by side both the expenditure of the sector which pays and that of the sector which finally uses the service;

(d) A further proposal is that government social expenditure should be divided between expenditure which is assignable, at least in principle, to individual households (cash transfers, current costs of schools) and that which must be regarded as collective (administration and the like). This would allow the expenditure on assignable services - if data can be obtained - to be distributed by groups of households (for example, by socio-economic groups) thus integrating the national accounting aggregates with other relevant distributions. To determine what kinds of expenditure are assignable and which are not is certainly controversial but it should not be impossible to set up some agreed guidelines;

(e) It is strongly suggested that measures of the total consumption of the population, or enlarged consumption, embracing both public and private consumption, should be introduced into SNA, at least as supplementary tables. This is particularly relevant to the social fields, in which the proportions of public and private consumption vary widely both between countries and over the course of time. The purpose is to display clearly estimates of total resources allocated to such services as health, education and housing. A number of unofficial estimates of total consumption of the population are cited and the concept is used throughout the International Comparison Project. Many practical and conceptual problems no doubt arise and have been under discussion for several years. Once again, it is suggested that official publication of estimates from the extensive, if incomplete, information already available should be encouraged;

(f) A further development related to the national accounts is the compilation of satellite, or functional, accounts integrating data from a variety of sources bearing on a particular function. Examples are given. Such accounts (which may include physical indicators as well as money flows) can embrace activities which national accounts exclude from the function concerned, but it is important that the relationships with national accounts

should be clearly shown. It is similarly desirable that the many national compilations of statistics of a particular function or topic, often issued by an agency concerned with the special topic, should make it clear how the economic data in particular relate to the national accounts.

D. Integrated statistics on health services

The following problems in the use of administrative statistics are noted: incomplete civil registration systems; incomplete records of treatments (which may be restricted to public institutions); lack of co-ordination of records kept in different branches of a health service; difficulties of preparing statistics at the local level (see chap. V). One suggestion for consideration is the wider use of occupational descriptions or other indications of social circumstances in patients' records.

Some of the general suggestions summarized in section C above for improving the information about the social fields in the national accounts apply with particular force to health care (treatment of subsidies and unrequited transfers; development of statistics of total consumption; use of satellite accounts), because of the differing institutional arrangements for health services and the consequent difficulty of making meaningful international comparisons.

A particular point for consideration is the treatment, in the sectoring of national accounts, of the private insurance companies which administer the financing (and perhaps other aspects) of health services under varying degrees of official control. These companies, as agents of social policy, might better be treated as belonging to the general government sector so long as direct government activities in health care are attributed to that sector.

The definitions in COFOG of what should be included in the elusive concept of health care may merit clarification. A useful distinction can be drawn between "basic health activities" and "associated activities".

E. Integrated statistics on education

Concerning integrated statistics on education (see chap. VI), the following issues are raised:

(a) For international comparisons of enrolments by ISCED levels, (i) the separation between first and second levels is of doubtful value; (ii) to calculate enrolment or participation rates at the third level by age-group a wider age-range for the appropriate number of total population is proposed; (iii) there are ambiguities about the definition of third level;

(b) Sample studies of attendance and absenteeism are suggested as a control on enrolment statistics;

(c) In view of the increasing number of students studying abroad, especially from developing countries, the feasibility of collecting data of such students from the "sending" countries might be explored;

(d) The possibility of establishing an international classification of educational qualifications should continue to be studied;

(e) More adequate statistics of vocational training are required, but it is recognized that problems of definition are considerable;

(f) Estimates of the stock of education in a society based on years of education completed should be considered as an alternative to numbers completing the various levels;

(g) There is a need for more statistics on adult education, to which time-use surveys might contribute;

(h) On national accounts the suggestions in section C also apply to education.

F. Integrated statistics on housing and human settlements

As to integrated statistics on housing and human settlements (see chap. VII), the following issues are noted:

(a) The promotion of more comprehensive information about water supply is urged;

(b) The usefulness for international comparisons of statistics of rents and of "slums and squatter settlements" seems limited, while recognizing their value on the national level;

(c) Scarcity of information about construction of dwellings, especially for developing countries, is noted as a rather serious gap for assessment of housing progress;

(d) On housing statistics in the national accounts, the general proposals in section C above apply. In addition, the following special problems concerning housing expenditure are raised:

(i) On the imputed values for owner-occupied dwellings, it is suggested that for some purposes (for example, for distribution of income and expenditure by household groups based on surveys) information about actual outgoings (on mortgages and maintenance) may be preferable to imputations based on market rentals;

(ii) As has often been recommended, imputed values should be displayed separately in national accounts;

(iii) The treatment of public expenditure on housing creates great difficulties because of the variety of ways by which Governments give financial aid. It will be very difficult

to devise unambiguous and generally workable guidelines. It is, however, suggested that the existing guidelines should be reviewed to see whether ambiguities can be resolved and gaps in current information be filled. Among the problems raised are the validity of the separation between subsidies and unrequited transfers - already referred to in another connection - and the allocation of government expenditure between the COPOG functions "housing and community amenities" and "social security and welfare". A more difficult question is whether account can be taken of government aid to households in such forms as tax concessions on mortgage interest, loans on concessionary terms (to builders or house buyers) - the major form of aid in many countries - and rent controls;

(e) Fuller information on the balance between public and private expenditure on housing and community amenities would be valuable for both market economies and CMEA countries, bearing in mind the generally larger proportionate public contributions in the latter. Among other things, it could assist in creating links between the SNA and MPS data on total consumption of the population in the field of housing.

Notes

1/ See report of the Secretary-General on links among demographic, social and economic statistics (E/CN.3/552), para. 15. For a review of recent work and trends in this field, see reports of the Secretary-General on progress in the development of social indicators and the integration of social, demographic and related statistics (E/CN.3/1985/11) and on future direction of work on social indicators (E/CN.3/1985/3).

2/ See A System of National Accounts, Series F, No. 2/Rev. 3 (United Nations publication, Sales No. E.69.XVII.3), Basic Principles of the System of Balances of the National Economy, Series F, No. 17 (United Nations publication, Sales No. E.71.XVII.10), Comparisons of the System of National Accounts and the System of Balances of the National Economy, Part One: Conceptual Relationships, Series F, No. 20 (United Nations publication, Sales No. E.77.XVII.6).

3/ See Principles and Recommendations for Population and Housing Censuses, Series M, No. 67 (United Nations publication, Sales No. E.80.XVII.8).

4/ See report of the Secretary-General on progress in the review of the System of National Accounts (SNA) (E/CN.3/1985/5),

5/ United Nations International Comparison Project, Phase III, World Product and Income, International Comparisons of Real Gross Product (Baltimore, Johns Hopkins University Press, 1984).

6/ Statistical Commission and Economic Commission for Europe, Conference of European Statisticians Working Party on the Framework for Integration of Social and Demographic Statistics, eighth session, held at Geneva from 30 January to 3 February 1984. Reports were submitted by Cyprus (CES/WP.34/39 and Add.1), Czechoslovakia (CES/WP.34/40), Finland (CES/WP.34/41 and Add.1), Hungary (CES/WP.34/42), Italy (CES/WP.34/43), the Netherlands (CES/WP.34/44), Norway (CES/WP.34/45), Portugal (CES/WP.34/46 and Add.1), Sweden (CES/WP.34/47 and Add.1), Switzerland (CES/WP.34/48), the United Kingdom of Great Britain and Northern Ireland (CES/WP.34/49), Turkey (CES/WP.34/53) and France (CES/WP.34/55).

7/ Report of Sweden (CES/WP.34/47), para. 12. The Swedish system is unusual in that the classification is based not on the occupation of the "head of the household" but on that of the adult coming highest in a specified "preferential order" (para. 32).

8/ See "L'identité sociale dans le travail statistique: la nouvelle nomenclature des professions et catégories socioprofessionnelles", Economie et statistique, No. 152 (Paris, INSEE, February 1983). The new eight-group scheme differs from the old one in, among other changes, adding a category for retired persons.

9/ The International Standard Industrial Classification of All Economic Activities (ISIC), Series M, No. 4 (United Nations publication, Sales No. E.68.XVII.8), which is related to ISCO and is likewise important for integration of social and related statistics, is also being revised.

10/ As recommended in the report of the Conference on European Statisticians Working Party on the Framework for the Integration of Social and Demographic Statistics at its eighth session (CES/WP.34/56, February 1984).

11/ See Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households, Series M, No. 61 (United Nations publication, Sales No. E.77.XVII.11).

12/ The Structure of Earnings in Industry, Social Statistics, Special Series (Luxembourg, 1976).

13/ See Handbook of Household Surveys (Revised Edition), Series F, No. 31 (United Nations publication, Sales No. E.83.XVII.13). Part three of this publication reviews the development of surveys at the national level.

14/ For a detailed technical discussion and proposals, see The Development of Integrated Data Bases for Social, Economic and Demographic Statistics, Studies in Methods, Series F, No. 27 (United Nations publication, Sales No. E.79.XVII.14) and report of the Secretary-General on links among demographic, social and economic statistics (E/CN.3/552).

15/ This matter is discussed further in the report of the Conference of European Statisticians at its thirty-first plenary session (ECE/CES/22, paras. 18-25), the report of the Conference of European Statisticians Working Party on the Framework for the Integration of Social and Demographic Statistics at its eighth session (CES/WP.34/56, para. 9), and the Proceedings of the Seminar convened by the Statistical Office of the European Communities on protection of privacy, automatic data processing and progress in statistical documentation, held in Luxembourg from 11 to 13 December 1984.

16/ "Use of population and housing censuses as single-source, multi-subject data bases; preliminary results of an inquiry to selected countries" (CES/WP.34/36).

17/ As described in the report of the Secretary-General on progress in the review of the System of National Accounts (SNA) (E/CN/3/1985/5).

18/ United Nations publication, Sales No. E.80.XVII.17.

19/ A "Draft classification of outlays of industries by purpose" was issued by the United Nations Secretariat in 1975 (ST/ESA/STAT/83).

20/ "The treatment in the national accounts of goods and services for individual consumption produced, distributed or paid for by government", Studies of National Accounts, No. 1 (Statistical Office of the European Communities, 1983). This proposal is also discussed in "The system of national accounts: review of major issues and proposals for future work and short term changes" (ESA/STAT/AC.15/2).

21/ Luxembourg, 1981, para. 206. For actual figures, see Social Protection Statistics Bulletin (Luxembourg, periodical).

22/ ESSPROS, para. 301 (d).

23/ See "The system of national accounts: review of major issues and proposals for future work and short term changes" (ESA/STAT/AC.15/2) and report of the Expert Group Meeting on the Review and Development of the United Nations System of National Accounts (SNA), held in New York from 22 to 26 March 1982 (ESA/STAT/AC.15/8).

24/ Social Indicators: Preliminary Guidelines and Illustrative Series, Series M, No. 63 (United Nations publication, Sales No. E.78.XVII.8).

25/ The treatment by ICP of public expenditure is discussed in "Problems of treatment of public expenditure", paper presented at the International Association for Research on Income and Wealth (IARIW), eighteenth general conference, August 1983. Some examples of special or unofficial country studies are the following: Vera Cao-Pinna and Alain Foulon, "A comparative analysis of household consumption financed by individual and collective resources in France and Italy", Review of Income and Wealth, Series 21, No. 1 (March 1975); Jacqueline Poelmans and Fabienne Itzkovitz, "Calcul de la consommation élargie pour la Belgique", Cahiers économiques de Bruxelles, No. 77 (1978-1); Alain Foulon, "La consommation élargie, 1959-1965-1970-1974", Consommation - Revue de socio-économie, No. 4, 1980 (data for France); Grete Kohlhauser, "Offentliche leistungen für den konsum der privaten haushalte", WIFO Monatsberichte, 10/1980 (data for Austria); André Vanoli, "Les notions de consommation élargie", Economie et statistique, No. 100 (May 1978) (a review of the literature); Christopher Saunders, "Measures of total household consumption", Review of Income and Wealth, Series 26, No. 4 (December 1980); S. G. Tiwari, "Government services in relation to total consumption of the population in Asian and Pacific countries with special reference to India", paper presented at IARIW, op. cit.; Jean-Noel Du Pasquier, "Long-run series of household enlarged consumption, Switzerland 1950-1980", paper presented at IARIW, op. cit.; Risto Kunnas, "Individual collective consumption in Finland, 1975-1982", paper presented at IARIW, op. cit.

26/ The development and objectives of satellite accounts are described by Ph. Pommier in "Social expenditure: the French experience of satellite accounts", Review of Income and Wealth, Series 27, No. 4 (December 1981) and by A. Foulon, "Proposals for a homogeneous treatment of health expenditure in the national accounts", Review of Income and Wealth, Series 28, No. 1 (March 1982). Satellite accounts in social fields have been published by INSEE for health, education and housing. Work is in progress on social protection.

27/ For example, Measuring Health Care 1960-1983; Expenditure, Costs and Performance (Paris, OECD, 1985).

28/ The Role of the National Household Survey Capability Programme in Providing Health Information in Developing Countries (DP/UN/INT-81-041/3).

29/ Teresa J. Ho, Measuring Health as a Component of Living Standards, LSMS Working Paper No. 15 (Washington, D.C., World Bank, April 1982).

30/ Measuring Health Care 1960-1983; Expenditure, Costs and Performance (Paris, OECD, 1985).

31/ Occupational classification in mortality statistics is discussed in B. Doring-Bradley and Robert Johnston, "Socio-economic classifications for the study of mortality differentials", in Proceedings of the Meeting on Socio-economic Determinants and Consequences of Mortality, held at Mexico City from 19 to 25 June 1979 (New York/Geneva, United Nations and World Health Organization).

32/ See Morbidity Statistics from General Practice 1970-71; Socio-Economic Analyses, Studies on Medical and Population Subjects, No. 46 (London, Her Majesty's Stationery Office, 1982). This book describes in detail the matching procedure used and problems encountered in applying it. A previous study covered the period 1955-1956.

33/ See The Role of the National Household Survey Capability Programme in Providing Health Information in Developing Countries (DP/UN/INT-81-041/3).

34/ See "National Household Survey Capability Programme: programme status, December 1984", Statistical Office and Department of Technical Co-operation for Development of the United Nations Secretariat, December 1984, and Beverley A. Carlson, "The potential of national household survey programmes for monitoring and evaluating primary health care in developing countries", World Health Statistics Quarterly (Geneva, WHO, 38/1, 1985), pp. 38-64.

35/ Ibid.

36/ See A System of National Accounts, Series F, No. 2/Rev. 3 (United Nations publication, Sales No. E.69.XVII.3), paras. 6.75-6.76.

37/ The diverse systems, and their implications for harmonizing the statistics, are fully described in a report for EUROSTAT by A. Foulon, Health Expenditure in the National Accounts of the ESA (1979); and the obstacles encountered in trying to achieve comparability among OECD countries in Public Expenditure on Health (Paris, OECD, 1977).

38/ United Nations publication, Sales No. E.79.XVII.8.

39/ An example of the difficulties of this approach is, however, provided by Finland. The insurance companies authorized to operate compulsory insurance systems (for pensions as well as for sickness) were first included in the general government sector, since contributions and benefits are regulated by Government in connection with general fiscal and social policy. This treatment resulted in objections from the companies and their output was later shifted to the private sector.

40/ See Basic Principles of the System of Balances of the National Economy, Series F, No. 17 (United Nations publication, Sales No. E.71.XVII.10).

41/ See System of Statistical Indicators of Non-material Services (Moscow, Council for Mutual Economic Assistance, 1980).

42/ See V. Cao-Pinna and S. S. Shatalin, Consumption Patterns in Eastern and Western Europe (New York, Pergamon Press, 1979).

43/ Collections de l'INSEE, série C, no. 74, June 1979. Although the figures show broad consistency with the national accounts, the reasons for some differences are not immediately apparent.

44/ Abridged edition, Paris, 1975.

45/ Calculated from data for 1976 by individual years of age in Education Statistics in OECD Countries, 1981 (Paris, OECD), tables 101, 102 and 126.

46/ See Statistical Yearbook 1981, table 2.2. Comparison with figures in an earlier UNESCO study, Statistics of Students Abroad 1962-68 (1971), shows that the annual flow from developing to developed countries has risen by more than four times since 1962.

47/ Studies in Methods, Series F. No. 18 (United Nations publication, Sales No. E. 74. XVII.8), paras. 29.3 ff.

48/ See, for example, Education and Training, Statistical Bulletin (Luxembourg, Statistical Office of the European Communities, June 1983).

49/ The method, with incomplete data for 1971, is summarized in INSEE Economie et statistique, No. 75 (Paris, INSEE, February 1976).

50/ See Social Trends, No. 11 (London, Central Statistical Office, 1980), p. 66.

51/ See Demographic Trends and Future University Candidates (London, Royal Society, 1983).

52/ United Nations publication, Sales No. E.80.XVII.8.

53/ United Nations publications, Sales Nos. E/F.80.XVII.4 and E/F.80/XVII.6.

54/ United Nations publication, Sales No. E/F.84.XVII.5.

55/ See A Statistical Survey of the Housing Situation in ECE Countries around 1970 (Geneva, 1978).

56/ See International Recommendations for Construction Statistics, Statistical Papers, Series M, No. 47 (United Nations publication, Sales No. E.68.XVII.II).

57/ Committee on Housing, Building and Planning and Conference of European Statisticians, "European programme of current housing statistics" (ST/CES/7 and Add. 1, 1966 and 1968).

58/ See Social Indicators: Preliminary Guidelines and Illustrative Series, Series M, No. 63 (United Nations publication, Sales No. E.78.XVII.8), para. 5.53.

59/ See, for example, Wolf Scott and N. T. Mathew, A Development Monitoring Service at the Local Level, Vol. II, Levels of Living and Poverty in Kerala (Geneva, United Nations Research Institute for Social Development, Report No. 83.2, 1983).

60/ See Principles and Recommendations for Population and Housing Censuses, Series M, No. 67 (United Nations publication, Sales No. E.80.XVII.8), para. 2.54.

61/ See R. Gillingham, "Measuring the cost of shelter" (CES/AC.49/16).

62/ For an early French satellite account in this field, see J.-C. Dutailly and D. Burlan, "Les conditions de logement des ménages en 1970", Collections de l'INSEE, séries M, no. 28 (1973).

63/ V. Cao-Pinna and S. S. Shatalin, in Consumption Patterns in Eastern and Western Europe (New York, Pergamon Press, 1979), estimate for the late 1960s that collective funds cover from a quarter to two thirds of current costs of rented dwellings in the eastern European countries studied.

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